10/631,862

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:SSSPTA1204RXW

PASSWORD:
TERMINAL (ENTER 1, 2, 3, OR ?):2

* * * * * * * * * * Welcome to STN International * * * * * * * * * *

NEWS	1		Web Page URLs for STN Seminar Schedule - N. America
NEWS	2		"Ask CAS" for self-help around the clock
NEWS	3	JUL 12	BEILSTEIN enhanced with new display and select options, resulting in a closer connection to BABS
NEWS	4	AUG 02	IFIPAT/IFIUDB/IFICDB reloaded with new search and display fields
NEWS	5	AUG 02	CAplus and CA patent records enhanced with European and Japan Patent Office Classifications
NEWS	6	AUG 02	The Analysis Edition of STN Express with Discover! (Version 7.01 for Windows) now available
NEWS	7	AUG 27	BIOCOMMERCE: Changes and enhancements to content coverage
NEWS	8	AUG 27	BIOTECHABS/BIOTECHDS: Two new display fields added for legal status data from INPADOC
NEWS	9	SEP 01	INPADOC: New family current-awareness alert (SDI) available
NEWS	10	SEP 01	New pricing for the Save Answers for SciFinder Wizard within STN Express with Discover!
NEWS	11	SEP 01	New display format, HITSTR, available in WPIDS/WPINDEX/WPIX
NEWS	12	SEP 27	STANDARDS will no longer be available on STN
NEWS	13	SEP 27	SWETSCAN will no longer be available on STN
NEWS	14	OCT 28	KOREAPAT now available on STN

NEWS EXPRESS	OCTOBER 29 CURRENT WINDOWS VERSION IS V7.01A, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 11 AUGUST 2004
NEWS HOURS	STN Operating Hours Plus Help Desk Availability
NEWS INTER	General Internet Information
NEWS LOGIN	Welcome Banner and News Items
NEWS PHONE	Direct Dial and Telecommunication Network Access to STN
NEWS WWW	CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that specific topic.

All use of STN is subject to the provisions of the STN Customer agreement. Please note that this agreement limits use to scientific research. Use for software development or design or implementation of commercial gateways or other similar uses is prohibited and may result in loss of user privileges and other penalties.

* * * * * * * * * * * * * * * STN Columbus * * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 08:47:51 ON 10 NOV 2004

=> file chemistry patent
FILE 'ENCOMPLIT' ACCESS NOT AUTHORIZED
FILE 'ENCOMPLIT2' ACCESS NOT AUTHORIZED

10/631,862

FILE 'ENCOMPPAT' ACCESS NOT AUTHORIZED
FILE 'ENCOMPPAT2' ACCESS NOT AUTHORIZED

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.21	0.21

FILE 'AGRICOLA' ENTERED AT 08:48:08 ON 10 NOV 2004

FILE 'ALUMINIUM' ENTERED AT 08:48:08 ON 10 NOV 2004
COPYRIGHT (C) 2004 Cambridge Scientific Abstracts (CSA)

FILE 'ANABSTR' ENTERED AT 08:48:08 ON 10 NOV 2004
COPYRIGHT (c) 2004 THE ROYAL SOCIETY OF CHEMISTRY (RSC)

FILE 'APOLLIT' ENTERED AT 08:48:08 ON 10 NOV 2004
COPYRIGHT (c) 2004 FIZ Karlsruhe

FILE 'AQUALINE' ENTERED AT 08:48:08 ON 10 NOV 2004
COPYRIGHT (C) 2004 Cambridge Scientific Abstracts (CSA)

FILE 'AQUIRE' ENTERED AT 08:48:08 ON 10 NOV 2004
COPYRIGHT (C) 2004 US Environmental Protection Agency (EPA)

FILE 'BABS' ENTERED AT 08:48:08 ON 10 NOV 2004
COPYRIGHT (c) 2004 Beilstein-Institut zur Foerderung der Chemischen Wissenschaften
licensed to Beilstein GmbH and MDL Information Systems GmbH

FILE 'BIOCOMMERCE' ENTERED AT 08:48:08 ON 10 NOV 2004
COPYRIGHT (C) 2004 BioCommerce Data Ltd. Richmond Surrey, United Kingdom. All
rights reserved

FILE 'BIOTECHNO' ENTERED AT 08:48:08 ON 10 NOV 2004
COPYRIGHT (C) 2004 Elsevier Science B.V., Amsterdam. All rights reserved.

FILE 'CABA' ENTERED AT 08:48:08 ON 10 NOV 2004
COPYRIGHT (C) 2004 CAB INTERNATIONAL (CABI)

FILE 'CAOLD' ENTERED AT 08:48:08 ON 10 NOV 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'CAPLUS' ENTERED AT 08:48:08 ON 10 NOV 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'CBNB' ENTERED AT 08:48:08 ON 10 NOV 2004
COPYRIGHT (c) 2004 ELSEVIER ENGINEERING INFORMATION, INC.

FILE 'CEABA-VTB' ENTERED AT 08:48:08 ON 10 NOV 2004
COPYRIGHT (c) 2004 DECHEMA eV

FILE 'CEN' ENTERED AT 08:48:08 ON 10 NOV 2004
COPYRIGHT (C) 2001 American Chemical Society (ACS)

FILE 'CERAB' ENTERED AT 08:48:08 ON 10 NOV 2004
COPYRIGHT (C) 2004 Cambridge Scientific Abstracts (CSA)

FILE 'CIN' ENTERED AT 08:48:08 ON 10 NOV 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

10/631,862

COPYRIGHT (C) 2004 American Chemical Society (ACS)

FILE 'COMPENDEX' ENTERED AT 08:48:08 ON 10 NOV 2004
Compendex Compilation and Indexing (C) 2004
Elsevier Engineering Information Inc (EEI). All rights reserved.
Compendex (R) is a registered Trademark of Elsevier Engineering Information Inc.

FILE 'CONFSCI' ENTERED AT 08:48:08 ON 10 NOV 2004
COPYRIGHT (C) 2004 Cambridge Scientific Abstracts (CSA)

FILE 'COPPERLIT' ENTERED AT 08:48:08 ON 10 NOV 2004
COPYRIGHT (C) 2004 Copper Development Association Inc. (CDA)

FILE 'CORROSION' ENTERED AT 08:48:08 ON 10 NOV 2004
COPYRIGHT (C) 2004 Cambridge Scientific Abstracts (CSA)

FILE 'DISSABS' ENTERED AT 08:48:08 ON 10 NOV 2004
COPYRIGHT (C) 2004 ProQuest Information and Learning Company; All Rights Reserved.

FILE 'FEDRIP' ENTERED AT 08:48:08 ON 10 NOV 2004

FILE 'GENBANK' ENTERED AT 08:48:08 ON 10 NOV 2004

FILE 'INSPEC' ENTERED AT 08:48:08 ON 10 NOV 2004
Compiled and produced by the IEE in association with FIZ KARLSRUHE
COPYRIGHT 2004 (c) INSTITUTION OF ELECTRICAL ENGINEERS (IEE)

FILE 'INSPHYS' ENTERED AT 08:48:08 ON 10 NOV 2004
Compiled and produced by the IEE in association with FIZ KARLSRUHE
COPYRIGHT 2004 (c) INSTITUTION OF ELECTRICAL ENGINEERS (IEE)

FILE 'INVESTEXT' ENTERED AT 08:48:08 ON 10 NOV 2004
COPYRIGHT (C) 2004 Thomson Financial Services, Inc. (TFS)

FILE 'IPA' ENTERED AT 08:48:08 ON 10 NOV 2004
COPYRIGHT (C) 2004 American Society of Hospital Pharmacists (ASHP)

FILE 'JICST-EPLUS' ENTERED AT 08:48:08 ON 10 NOV 2004
COPYRIGHT (C) 2004 Japan Science and Technology Agency (JST)

FILE 'KOSMET' ENTERED AT 08:48:08 ON 10 NOV 2004
COPYRIGHT (C) 2004 International Federation of the Societies of Cosmetics Chemists

FILE 'METADEX' ENTERED AT 08:48:08 ON 10 NOV 2004
COPYRIGHT (c) 2004 Cambridge Scientific Abstracts (CSA)

FILE 'NAPRALERT' ENTERED AT 08:48:08 ON 10 NOV 2004
COPYRIGHT (C) 2004 Board of Trustees of the University of Illinois,
University of Illinois at Chicago.

FILE 'NIOSHTIC' ENTERED AT 08:48:08 ON 10 NOV 2004
COPYRIGHT (C) 2004 U.S. Secretary of Commerce on Behalf of the U.S. Government

FILE 'NTIS' ENTERED AT 08:48:08 ON 10 NOV 2004
Compiled and distributed by the NTIS, U.S. Department of Commerce.
It contains copyrighted material.
All rights reserved. (2004)

FILE 'PAPERCHEM2' ENTERED AT 08:48:08 ON 10 NOV 2004
Paperchem2 compilation and indexing (C) 2004
Elsevier Engineering Information Inc. All rights reserved.

FILE 'PASCAL' ENTERED AT 08:48:08 ON 10 NOV 2004

FILE 'PROMT' ENTERED AT 08:48:08 ON 10 NOV 2004

FILE 'RAPRA' ENTERED AT 08:48:08 ON 10 NOV 2004

FILE 'RDISCLOSURE' ENTERED AT 08:48:08 ON 10 NOV 2004

FILE 'RUSSCI' ENTERED AT 08:48:08 ON 10 NOV 2004

FILE 'SCISEARCH' ENTERED AT 08:48:08 ON 10 NOV 2004

FILE 'TULSA' ENTERED AT 08:48:08 ON 10 NOV 2004

FILE 'TULSA2' ENTERED AT 08:48:08 ON 10 NOV 2004

FILE 'USAN' ENTERED AT 08:48:08 ON 10 NOV 2004

FILE 'WATER' ENTERED AT 08:48:08 ON 10 NOV 2004

FILE 'WELDASEARCH' ENTERED AT 08:48:08 ON 10 NOV 2004

FILE 'WSCA' ENTERED AT 08:48:08 ON 10 NOV 2004

FILE 'CASREACT' ENTERED AT 08:48:08 ON 10 NOV 2004

FILE 'CROPU' ENTERED AT 08:48:08 ON 10 NOV 2004

FILE 'DGENE' ENTERED AT 08:48:08 ON 10 NOV 2004

FILE 'DPCI' ENTERED AT 08:48:08 ON 10 NOV 2004

FILE 'EUROPATFULL' ENTERED AT 08:48:08 ON 10 NOV 2004

FILE 'FRANCEPAT' ENTERED AT 08:48:08 ON 10 NOV 2004

FILE 'FRFULL' ENTERED AT 08:48:08 ON 10 NOV 2004

FILE 'FSTA' ENTERED AT 08:48:08 ON 10 NOV 2004

10/631,862

COPYRIGHT (C) 2004 International Food Information Service

FILE 'IFIPAT' ENTERED AT 08:48:08 ON 10 NOV 2004
COPYRIGHT (C) 2004 IFI CLAIMS(R) Patent Services (IFI)

FILE 'IMSPATENTS' ENTERED AT 08:48:08 ON 10 NOV 2004
COPYRIGHT (C) 2004 IMSWORLD Publications Ltd.

FILE 'INPADOC' ENTERED AT 08:48:08 ON 10 NOV 2004
COPYRIGHT (C) 2004 European Patent Office, Vienna (EPO)

FILE 'JAPIO' ENTERED AT 08:48:08 ON 10 NOV 2004
COPYRIGHT (C) 2004 Japanese Patent Office (JPO)- JAPIO

FILE 'LITALERT' ENTERED AT 08:48:08 ON 10 NOV 2004
COPYRIGHT (C) 2004 THE THOMSON CORPORATION

FILE 'PATDD' ENTERED AT 08:48:08 ON 10 NOV 2004
COPYRIGHT 2004 (C) Deutsches Patent- und Markenamt (DPMA)

FILE 'PATDPA' ENTERED AT 08:48:08 ON 10 NOV 2004
COPYRIGHT (c) 2004 Deutsches Patent- und Markenamt / FIZ Karlsruhe (DPMA/FIZ KA)

FILE 'PATDPAFULL' ENTERED AT 08:48:08 ON 10 NOV 2004
COPYRIGHT (C) 2004 DPMA

FILE 'PATOSDE' ENTERED AT 08:48:08 ON 10 NOV 2004
COPYRIGHT (c) 2004 WILA Verlag Muenchen (WILA)

FILE 'PATOSEP' ENTERED AT 08:48:08 ON 10 NOV 2004
COPYRIGHT (c) 2004 WILA Verlag Muenchen (WILA)

FILE 'PATOSWO' ENTERED AT 08:48:08 ON 10 NOV 2004
COPYRIGHT (c) 2004 WILA Verlag Muenchen (WILA)

FILE 'PCTFULL' ENTERED AT 08:48:08 ON 10 NOV 2004
COPYRIGHT (C) 2004 Univentio

FILE 'PCTGEN' ENTERED AT 08:48:08 ON 10 NOV 2004
COPYRIGHT (C) 2004 WIPO

FILE 'PIRA' ENTERED AT 08:48:08 ON 10 NOV 2004
COPYRIGHT (C) 2004 Pira International

FILE 'PROUSDDR' ENTERED AT 08:48:08 ON 10 NOV 2004
COPYRIGHT (C) 2004 Prous Science

FILE 'PS' ENTERED AT 08:48:08 ON 10 NOV 2004
COPYRIGHT (C) 2004 Thieme on STN

FILE 'SYNTHLINE' ENTERED AT 08:48:08 ON 10 NOV 2004
COPYRIGHT (C) 2004 Prous Science

FILE 'USPATFULL' ENTERED AT 08:48:08 ON 10 NOV 2004
CA INDEXING COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'USPAT2' ENTERED AT 08:48:08 ON 10 NOV 2004
CA INDEXING COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'WPIDS' ENTERED AT 08:48:08 ON 10 NOV 2004
COPYRIGHT (C) 2004 THE THOMSON CORPORATION

10/631,862

FILE 'WPIFV' ENTERED AT 08:48:08 ON 10 NOV 2004
COPYRIGHT (C) 2004 THOMSON DERWENT

FILE 'WPINDEX' ACCESS NOT AUTHORIZED

=> s (perfluoropolyether or polyether or polyoxyalkylene ether) and (gas? (2a) hydrogen or reduc? or hydrogenation) and (group viii or palladium or platinum or rhodium or ruthenium or pd or pt or rh or ru) and (support? (5a) fluoride)
   9 FILES SEARCHED...
  14 FILES SEARCHED...
  22 FILES SEARCHED...
  28 FILES SEARCHED...
  36 FILES SEARCHED...
  41 FILES SEARCHED...
  49 FILES SEARCHED...
  52 FILES SEARCHED...
  58 FILES SEARCHED...
  62 FILES SEARCHED...
  64 FILES SEARCHED...
  67 FILES SEARCHED...
  75 FILES SEARCHED...
L1   87 (PERFLUOROPOLYETHER OR POLYETHER OR POLYOXYALKYLENE ETHER) AND (GAS? (2A) HYDROGEN OR REDUC? OR HYDROGENATION) AND (GROUP VIII OR PALLADIUM OR PLATINUM OR RHODIUM OR RUTHENIUM OR PD OR PT OR RH OR RU) AND (SUPPORT? (5A) FLUORIDE)

=>

=> dup rem l1
DUPLICATE IS NOT AVAILABLE IN 'AQUIRE, BIOCOMMERCE, CAOLD, FEDRIP, GENBANK, INVESTEXT, KOSMET, RDISCLOSURE, USAN, DGENE, DPCI, IMSPATENTS, LITALERT, PCTGEN, PROUSDDR, SYNTHLINE'.
ANSWERS FROM THESE FILES WILL BE CONSIDERED UNIQUE
PROCESSING COMPLETED FOR L1
L2   82 DUP REM L1 (5 DUPLICATES REMOVED)

=> d l2 1-82 ti

L2   ANSWER 1 OF 82 PROMT COPYRIGHT 2004 Gale Group on STN

TI   Trade name directory.

L2   ANSWER 2 OF 82 CAPLUS COPYRIGHT 2004 ACS on STN
TI   Process for the preparation of perfluoropolyethers having aldehyde, alcohol, and amine end groups by catalytic reduction

L2   ANSWER 3 OF 82 EUROPATFULL COPYRIGHT 2004 WILA on STN
TIEN   Azeotropic compositions comprising 1,1,1,2,3,3,3-heptafluoropropane and processes using said compositions.

L2   ANSWER 4 OF 82 EUROPATFULL COPYRIGHT 2004 WILA on STN
TIEN   PROTON-CONDUCTIVE POLYMER FILM AND PROCESS FOR PRODUCING THE SAME.

L2   ANSWER 5 OF 82 EUROPATFULL COPYRIGHT 2004 WILA on STN
TIEN   PROCESSES FOR THE PRODUCTION OF HEXAFLUOROPROPENE AND OPTIONALLY OTHER HALOGENATED HYDROCARBONS CONTAINING FLUORINE.

L2   ANSWER 6 OF 82 EUROPATFULL COPYRIGHT 2004 WILA on STN
TIEN   PROCESSES FOR THE MANUFACTURE OF 1,1,1,3,3-PENTAFLUOROPROPENE, 2-CHLORO-PENTAFLUOROPROPENE.

L2   ANSWER 7 OF 82   PCTFULL   COPYRIGHT 2004 Univentio on STN

TIEN ELECTROSTATIC PROCESSING OF ELECTROCHEMICAL DEVICE COMPONENTS
TIFR TRAITEMENT ELECTROSTATIQUE DE COMPOSANTS DE DISPOSITIFS ELECTROCHIMIQUES

L2 ANSWER 8 OF 82 USPATFULL on STN
TI Fuel cell, fuel cell generator, and equipment using the same

L2 ANSWER 9 OF 82 USPATFULL on STN
TI Proton-conductive polymer film and process for producing the same

L2 ANSWER 10 OF 82 USPATFULL on STN
TI Reagents and methods for library synthesis and screening

L2 ANSWER 11 OF 82 PROMT COPYRIGHT 2004 Gale Group on STN

TI Trade name directory. (A-O).

L2 ANSWER 12 OF 82 EUROPATFULL COPYRIGHT 2004 WILA on STN
TIEN Polymerization of cyclic ethers using heterogeneous catalysts.
TIEN Polymerization of cyclic ethers using heterogeneous catalysts.

L2 ANSWER 13 OF 82 USPATFULL on STN DUPLICATE 1
TI Production of 1,2-dihydro and 2,2-dihydro hexafluoropropanes and azeotropes thereof with HF

L2 ANSWER 14 OF 82 USPATFULL on STN DUPLICATE 2
TI Process for the manufacture of 1,1,1,3,3-pentafluoropropene, 2-chloro-pentafluoropropene and compositions comprising saturated derivatives

L2 ANSWER 15 OF 82 USPATFULL on STN DUPLICATE 3
TI PROCESSES FOR THE MANUFACTURE OF 1,1,1,3,3- PENTAFLUOROPROPENE, 2-CHLORO-PENTAFLUOROPROPENE AND COMPOSITIONS COMPRISING SATURATED DERIVATIVES THEREOF

L2 ANSWER 16 OF 82 EUROPATFULL COPYRIGHT 2004 WILA on STN
TIEN Fuel cell, fuel cell generator, and equipment using the same.

L2 ANSWER 17 OF 82 USPATFULL on STN
TI Fuel cell, fuel cell generator, and equipment using the same

L2 ANSWER 18 OF 82 USPATFULL on STN
TI Interfacially polymerized, bipiperidine-polyamide membranes for reverse osmosis and/or nanofiltration and process for making the same

L2 ANSWER 19 OF 82 USPATFULL on STN
TI Production of 1,2-dihydro and 2,2-dihydro hexafluoropropanes and azeotropes thereof with HF

L2 ANSWER 20 OF 82 USPATFULL on STN DUPLICATE 4
TI Fuel cell with monolithic flow field-bipolar plate assembly and method for making and cooling a fuel cell stack

L2 ANSWER 21 OF 82 USPATFULL on STN DUPLICATE 5
TI Gas diffusion electrode with nanosized pores and method for making same

L2 ANSWER 22 OF 82 PCTFULL COPYRIGHT 2004 Univentio on STN
TIEN GAS DIFFUSION ELECTRODE WITH NANOSIZED PORES AND METHOD FOR MAKING SAME
TIFR ELECTRODE DE DIFFUSION GAZEUSE A PORES DE TAILLE NANOMETRIQUE ET PROCEDE POUR LA FABRICATION D'UNE TELLE ELECTRODE

L2 ANSWER 23 OF 82 PCTFULL COPYRIGHT 2004 Univentio on STN
TIEN FUEL CELL WITH MONOLITHIC FLOW FIELD-BIPOLAR PLATE ASSEMBLY AND METHOD

FOR MAKING AND COOLING A FUEL CELL STACK
TIFR PILE A COMBUSTIBLE A ASSEMBLAGE DE PLAQUES A CHAMP BIPOLAIRE ET ECOULEMENT MONOLITHIQUE, ET PROCEDE DE FABRICATION ET DE REFROIDISSEMENT D'UN EMPILEMENT DE PILES A COMBUSTIBLE

L2 ANSWER 24 OF 82 PCTFULL COPYRIGHT 2004 Univentio on STN
TIEN ELECTRONICALLY CONDUCTING FUEL CELL COMPONENT WITH DIRECTLY BONDED LAYERS AND METHOD FOR MAKING SAME
TIFR COMPOSANT DE PILE A COMBUSTIBLE CONDUCTEUR SUR LE PLAN ELECTRONIQUE DOTE DE COUCHES DIRECTEMENT LIEES ET PROCEDE DE FABRICATION CORRESPONDANT

L2 ANSWER 25 OF 82 USPATFULL on STN
TI Electronically conducting fuel cell component with directly bonded layers and method for making same

L2 ANSWER 26 OF 82 USPATFULL on STN
TI Processes for the production of hexafluoropropene and optionally other halogenated hydrocarbons containing fluorine

L2 ANSWER 27 OF 82 EUROPATFULL COPYRIGHT 2004 WILA on STN
TIEN Interfacially polymerized, bipiperidine-polyamide membranes for reverse osmosis and/or nanofiltration and process for making the same.

L2 ANSWER 28 OF 82 EUROPATFULL COPYRIGHT 2004 WILA on STN
TIEN PRODUCTION OF 1,2-DIHYDRO AND 2,2-DIHYDRO HEXAFLUOROPROPANES AND AZEOTROPES THEREOF WITH HF.

L2 ANSWER 29 OF 82 EUROPATFULL COPYRIGHT 2004 WILA on STN
TIEN Interfacially synthesized reverse osmosis membranes and processes for preparing the same.
TIEN Interfacially synthesized reverse osmosis membranes and processes for preparing the same.

L2 ANSWER 30 OF 82 USPATFULL on STN
TI Catalysts for halogenated hydrocarbon processing, their precursors and their preparation and use

L2 ANSWER 31 OF 82 USPATFULL on STN
TI Process for the manufacture of 2-chloro-1,1,1-trifluoroethane

L2 ANSWER 32 OF 82 PCTFULL COPYRIGHT 2004 Univentio on STN
TIEN PROCESSES FOR THE PRODUCTION OF HEXAFLUOROPROPENE AND OPTIONALLY OTHER HALOGENATED HYDROCARBONS CONTAINING FLUORINE
TIFR PROCEDES RELATIFS A LA PRODUCTION D'HEXAFLUOROPROPENE ET EVENTUELLEMENT D'AUTRES HYDROCARBURES HALOGENES CONTENANT DU FLUOR

L2 ANSWER 33 OF 82 PCTFULL COPYRIGHT 2004 Univentio on STN
TIEN SELECTIVE MEMBRANE AND PROCESS FOR ITS PREPARATION
TIFR MEMBRANE SELECTIVE ET PROCEDE DE PREPARATION DE CELLE-CI

L2 ANSWER 34 OF 82 USPATFULL on STN
TI Catalytic halogenated hydrocarbon processing and ruthenium catalysts for use therein

L2 ANSWER 35 OF 82 USPATFULL on STN
TI Process for the production of trifluoroethylene

L2 ANSWER 36 OF 82 USPATFULL on STN
TI Polymerization of, and depolymerization to, cyclic ethers using selected metal compound catalysts

L2 ANSWER 37 OF 82 PCTFULL COPYRIGHT 2004 Univentio on STN

TIEN CATALYSTS FOR HALOGENATED HYDROCARBON PROCESSING, THEIR PRECURSORS AND THEIR PREPARATION AND USE
TIFR CATALYSEURS DE TRAITEMENT D'HYDROCARBURES HALOGENES, LEURS PRECURSEURS, LEUR PREPARATION ET LEUR UTILISATION

L2 ANSWER 38 OF 82 PCTFULL COPYRIGHT 2004 Univentio on STN
TIEN CATALYTIC HALOGENATED HYDROCARBON PROCESSING AND RUTHENIUM CATALYSTS FOR USE THEREIN
TIFR TRAITEMENT PAR CATALYSE DES HYDROCARBURES HALOGENES ET CATALYSEURS AU RUTHENIUM UTILISES

L2 ANSWER 39 OF 82 USPATFULL on STN
TI Polymerization of, and depolymerization to, cyclic ethers using selected metal compound catalysts

L2 ANSWER 40 OF 82 EUROPATFULL COPYRIGHT 2004 WILA on STN
TIEN PROCESS FOR THE MANUFACTURE OF 2-CHLORO-1,1,1-TRIFLUOROETHANE.

L2 ANSWER 41 OF 82 EUROPATFULL COPYRIGHT 2004 WILA on STN
TIEN PROCESS FOR THE MANUFACTURE OF 2-CHLORO-1,1,1,2-TETRAFLUOROETHANE AND PENTAFLUOROETHANE.

L2 ANSWER 42 OF 82 EUROPATFULL COPYRIGHT 2004 WILA on STN
TIEN PROCESS FOR THE MANUFACTURE OF 1,1,1,2-TETRAFLUOROETHANE.

L2 ANSWER 43 OF 82 EUROPATFULL COPYRIGHT 2004 WILA on STN
TIEN PROCESS FOR THE MANUFACTURE OF 2,2-DICHLORO-1,1,1-TRIFLUOROETHANE, 2-CHLORO-1,1,1,2-TETRAFLUOROETHANE AND PENTAFLUOROETHANE.

L2 ANSWER 44 OF 82 USPATFULL on STN
TI Production of 1,2-dihydro and 2,2-dihydro hexafluoropropanes and azeotropes thereof with HF

L2 ANSWER 45 OF 82 USPATFULL on STN
TI Acid gas fractionation process

L2 ANSWER 46 OF 82 USPATFULL on STN
TI Acid gas fractionation process for fossil fuel gasifiers

L2 ANSWER 47 OF 82 USPATFULL on STN
TI Process for manufacture of high purity 1, 1-dichlorotetrafluoroethane

L2 ANSWER 48 OF 82 USPATFULL on STN
TI Polymerization of, and depolymerization to, cyclic ethers using selected metal compound catalysts

L2 ANSWER 49 OF 82 EUROPATFULL COPYRIGHT 2004 WILA on STN
TIEN REGENERATION OR ACTIVATION OF NOBLE METAL CATALYSTS USING FLUOROHALOCARBONS OR FLUOROHALOHYDROCARBONS.

L2 ANSWER 50 OF 82 EUROPATFULL COPYRIGHT 2004 WILA on STN
TIEN MANUFACTURE OF 1,1,1,2-TETRAFLUOROETHANE.

L2 ANSWER 51 OF 82 PCTFULL COPYRIGHT 2004 Univentio on STN
TIEN PRODUCTION OF 1,2-DIHYDRO AND 2,2-DIHYDRO HEXAFLUOROPROPANES AND AZEOTROPES THEREOF WITH HF
TIFR PRODUCTION DE 1,2-DIHYDRO ET 2,2-DIHYDRO HEXAFLUOROPROPANES ET D'AZEOTROPES DE CES DERNIERS A L'AIDE DE FLUORURE D'HYDROGENE

L2 ANSWER 52 OF 82 PCTFULL COPYRIGHT 2004 Univentio on STN
TIEN PROCESS FOR MANUFACTURE OF HIGH PURITY 1,1-DICHLOROTETRAFLUOROETHANE
TIFR PRODECE POUR PRODUIRE DU 1,1-DICHLOROTETRAFLUOROETHANE HAUTEMENT PUR

L2 ANSWER 53 OF 82 PCTFULL COPYRIGHT 2004 Univentio on STN
TIEN MEMBRANE AND NON-MEMBRANE SOUR GAS TREATMENT PROCESS
TIFR PROCEDE AVEC ET SANS MEMBRANE DE TRAITEMENT DE GAZ SULFUREUX

L2 ANSWER 54 OF 82 PCTFULL COPYRIGHT 2004 Univentio on STN
TIEN SOUR GAS TREATMENT PROCESS
TIFR PROCEDE DE TRAITEMENT DE GAZ SULFUREUX

L2 ANSWER 55 OF 82 PCTFULL COPYRIGHT 2004 Univentio on STN
TIEN SOUR GAS MEMBRANE TREATMENT PROCESS INCLUDING DEHYDRATION
TIFR PROCEDE DE TRAITEMENT MEMBRANAIRE DE GAZ SULFUREUX INCLUANT LA DESHYDRATATION

L2 ANSWER 56 OF 82 PCTFULL COPYRIGHT 2004 Univentio on STN
TIEN POLYMERIZATION, AND DEPOLYMERIZATION, OF CYCLIC ETHERS USING HETEROGENEOUS CATALYSTS
TIFR POLYMERISATION ET DEPOLYMERISATION D'ETHERS CYCLIQUES A L'AIDE DE CATALYSEURS HETEROGENES

L2 ANSWER 57 OF 82 USPATFULL on STN
TI Process for manufacture of high purity 1,1-dichlorotetrafluoroethane

L2 ANSWER 58 OF 82 USPATFULL on STN
TI Sour gas treatment process

L2 ANSWER 59 OF 82 USPATFULL on STN
TI Sour gas treatment process including membrane and non-membrane treatment steps

L2 ANSWER 60 OF 82 USPATFULL on STN
TI Sour gas treatment process including dehydration of the gas stream

L2 ANSWER 61 OF 82 EUROPATFULL COPYRIGHT 2004 WILA on STN
TIEN ACTIVATION OF NOBLE METAL CATALYSTS FOR USE IN HYDRODEHALOGENATION OF HALOGEN-SUBSTITUTED HYDROCARBONS CONTAINING FLUORINE AND AT LEAST ONE OTHER HALOGEN.

L2 ANSWER 62 OF 82 USPATFULL on STN
TI Manufacture of 1,1,1,2-tetrafluoroethane

L2 ANSWER 63 OF 82 USPATFULL on STN
TI Process for the manufacture of 1,1,1,2-tetrafluoroethane

L2 ANSWER 64 OF 82 USPATFULL on STN
TI Process for the manufacture of 2,2-dichloro-1,1,1-trifluoroethane, 2-chloro-1,1,1,2-tetrafluoroethane and pentafluoroethane

L2 ANSWER 65 OF 82 USPATFULL on STN
TI Process for the manufacture of 2-chloro-1,1,1,2-tetrafluoroethane and pentafluoroethane

L2 ANSWER 66 OF 82 EUROPATFULL COPYRIGHT 2004 WILA on STN
TIEN Gas-phase fluorination process.
TIEN Gas-phase fluorination process.

L2 ANSWER 67 OF 82 USPATFULL on STN
TI Interfacially synthesized reverse osmosis membranes and processes for preparing the same

L2 ANSWER 68 OF 82 USPATFULL on STN
TI Activation of noble metal catalysts for use in hydrodehalogenation of

halogen-substituted hydrocarbons containing fluorine and at least one other halogen

L2 ANSWER 69 OF 82 USPATFULL on STN
TI Manufacture of 1,1,1,2-tetrafluoroethane

L2 ANSWER 70 OF 82 PCTFULL COPYRIGHT 2004 Univentio on STN
TIEN PROCESS FOR REMOVING CONDENSABLE COMPONENTS FROM GAS STREAMS
TIFR PROCEDE SERVANT A RETIRER DE FLUX GAZEUX DES CONSTITUANTS CONDENSABLES

L2 ANSWER 71 OF 82 PCTFULL COPYRIGHT 2004 Univentio on STN
TIEN PROCESS FOR THE MANUFACTURE OF 2-CHLORO-1,1,1,2-TETRAFLUOROETHANE AND PENTAFLUOROETHANE
TIFR PROCEDE DE FABRICATION DE 2-CHLORO-1,1,1,2-TETRAFLUOROETHANE ET PENTAFLUOROETHANE

L2 ANSWER 72 OF 82 PCTFULL COPYRIGHT 2004 Univentio on STN
TIEN PROCESS FOR THE MANUFACTURE OF 1,1,1,2-TETRAFLUOROETHANE
TIFR PROCEDE DE FABRICATION DE 1,1,1,2-TETRAFLUOROETHANE

L2 ANSWER 73 OF 82 PCTFULL COPYRIGHT 2004 Univentio on STN
TIEN PROCESS FOR THE MANUFACTURE OF 2-CHLORO-1,1,1-TRIFLUOROETHANE
TIFR PROCEDE DE FABRICATION DE 2-CHLORO-1,1,1-TRIFLUOROETHANE

L2 ANSWER 74 OF 82 PCTFULL COPYRIGHT 2004 Univentio on STN
TIEN PROCESS FOR THE MANUFACTURE OF 2,2-DICHLORO-1,1,1-TRIFLUOROETHANE, 2-CHLORO-1,1,1,2-TETRAFLUOROETHANE AND PENTAFLUOROETHANE
TIFR PROCEDE DE FABRICATION DE 2,2-DICHLORO-1,1,1-TRIFLUOROETHANE, 2-CHLORO-1,1,1,2-TETRAFLUOROETHANE ET PENTAFLUOROETHANE

L2 ANSWER 75 OF 82 USPATFULL on STN
TI Activation of noble metal catalysts using fluorohalocarbons or fluorohalohydrocarbons

L2 ANSWER 76 OF 82 PCTFULL COPYRIGHT 2004 Univentio on STN
TIEN ACTIVATION OF NOBLE METAL CATALYSTS FOR USE IN HYDRODEHALOGENATION OF HALOGEN-SUBSTITUTED HYDROCARBONS CONTAINING FLUORINE AND AT LEAST ONE OTHER HALOGEN
TIFR ACTIVATION DE CATALYSEURS DE METAUX PRECIEUX DESTINES A L'HYDRODESHALOGENATION DES HYDROCARBURES SUBSTITUES PAR HALOGENE ET CONTENANT DU FLUOR ET AU MOINS UN AUTRE HALOGENE

L2 ANSWER 77 OF 82 PCTFULL COPYRIGHT 2004 Univentio on STN
TIEN REGENERATION OR ACTIVATION OF NOBLE METAL CATALYSTS USING FLUOROHALOCARBONS OR FLUOROHALOHYDROCARBONS
TIFR REGENERATION OU ACTIVATION D'UN CATALYSEUR EN METAL PRECIEUX A L'AIDE D'HALOCARBONES FLUORES OU D'HALOHYDROCARBONES FLUORES

L2 ANSWER 78 OF 82 USPATFULL on STN
TI Regeneration of noble metal catalysts used in hydrodehalogenation of halogen-substituted hydrocarbons containing fluorine and at least one other halogen

L2 ANSWER 79 OF 82 PCTFULL COPYRIGHT 2004 Univentio on STN
TIEN MANUFACTURE OF 1,1,1,2-TETRAFLUOROETHANE
TIFR FABRICATION DE 1,1,1,2-TETRAFLUOROETHANE

L2 ANSWER 80 OF 82 USPATFULL on STN
TI Regeneration or activation of noble metal catalysts using fluorohalocarbons or fluorohalohydrocarbons

L2 ANSWER 81 OF 82 USPATFULL on STN

10/631,862

TI Gas-phase fluorination process

L2 ANSWER 82 OF 82 JAPIO (C) 2004 JPO on STN
TI METHOD FOR PRODUCING PERFLUOROPOLYETHERS HAVING ALDEHYDE, ALCOHOL, AND AMINE TERMINAL GROUPS

=> d 2,5,26,30,34,37,81,82 bib ab

L2 ANSWER 2 OF 82 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2004:117259 CAPLUS
DN 140:146686
TI Process for the preparation of perfluoropolyethers having aldehyde, alcohol, and amine end groups by catalytic reduction
IN Di, Meo Antonello; Picozzi, Rosaldo; Tonelli, Claudio
PA Solvay Solexis S.P.A., Italy
SO Eur. Pat. Appl., 10 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1388556	A2	20040211	EP 2003-17183	20030729
	EP 1388556	A3	20040331		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	US 2004068144	A1	20040408	US 2003-630698	20030731
	JP 2004068007	A2	20040304	JP 2003-205414	20030801
PRAI	IT 2002-MI1734	A	20020801		

AB A process for the perfluoropolyether preparation having reactive end groups -CH2NH2, -CHO, -CH2OH, by reduction of the corresponding perfluoropolyethers having -CN, -COCl, -CHO end groups by using gaseous hydrogen in the presence of a catalyst constituted by Pd, Rh, or Ru, supported on solid metal fluorides, at 20-150° and under a pressure between 1 and 50 atmospheric is disclosed.

L2 ANSWER 5 OF 82 EUROPATFULL COPYRIGHT 2004 WILA on STN

GRANTED PATENT - ERTEILTES PATENT - BREVET DELIVRE

AN 1084093 EUROPATFULL ED 20040819 EW 200434 FS PS
TIEN PROCESSES FOR THE PRODUCTION OF HEXAFLUOROPROPENE AND OPTIONALLY OTHER HALOGENATED HYDROCARBONS CONTAINING FLUORINE.
TIDE VERFAHREN ZUR HERSTELLUNG VON HEXAFLUORPROPEN UND GEGEBENENFALLS WEITEREN HALOGENIERTEN FLUOR ENTHALTENDEN KOHLENWASSERSTOFFEN.
TIFR PROCEDES RELATIFS A LA PRODUCTION D'HEXAFLUOROPROPENE ET EVENTUELLEMENT D'AUTRES HYDROCARBURES HALOGENES CONTENANT DU FLUOR.
IN SIEVERT, Allen, Capron, 215 Rhett Lane, Elkton, MD 21921, US;
RAO, Velliyur, Nott, Mallikarjuna, 1 Georgetown Avenue, Wilmington, DE 19809, US;
WALCZAK, Francis, J., 203 Jefferson Avenue, New Castle, DE 19720, US
PA E.I. DUPONT DE NEMOURS AND COMPANY, 1007 Market Street, Wilmington, Delaware 19898, US
PAN 2567250
AG Towler, Philip Dean et al., Frank B. Dehn & Co., European Patent Attorneys, 179 Queen Victoria Street, London EC4V 4EL, GB
AGN 75321
OS MEPB2004035 EP 1084093 B1 0015
SO Wila-EPS-2004-H34-T1
DT Patent

10/631,862

LA Anmeldung in Englisch; Veroeffentlichung in Englisch
DS R DE; R FR; R GB; R IT; R NL
PIT EPB1 EUROPAEISCHE PATENTSCHRIFT (Internationale Anmeldung)
PI EP 1084093 B1 20040818
OD 20010321
AI EP 1999-928367 19990602
PRAI US 1998-87751 19980602
RLI WO 99-US12246 990602 INTAKZ
WO 1999062851 991209 INTPNR
REP EP 434407 A EP 434409 A
WO 90-08748 A WO 97-19751 A
GB 821211 A GB 2313118 A
US 2576823 A US 5523501 A

L2 ANSWER 26 OF 82 USPATFULL on STN
AN 2001:226805 USPATFULL
TI Processes for the production of hexafluoropropene and optionally other halogenated hydrocarbons containing fluorine
IN Sievert, Allen Capron, Elkton, MD, United States
Rao, V. N. Mallikarjuna, Wilmington, DE, United States
Walczak, Francis J., New Castle, DE, United States
PA E. I. du Pont de Nemours and Company, Wilmington, DE, United States (U.S. corporation)
PI US 6329559 B1 20011211
WO 9962851 19991209
AI US 2000-701448 20001127 (9)
WO 1999-US12246 19990602
20001127 PCT 371 date
20001127 PCT 102(e) date
PRAI US 1998-87751P 19980602 (60)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Siegel, Alan
CLMN Number of Claims: 20
ECL Exemplary Claim: 1
DRWN 1 Drawing Figure(s); 1 Drawing Page(s)
LN.CNT 961
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A process is disclosed for the manufacture of CF.sub.3 CF.dbd.CF.sub.2, and optionally a least one compound selected from CF.sub.3 CH.sub.2 CF.sub.3 and CF.sub.3 CHFCHF.sub.2. The process involves contacting a reactor feed including a precursor stream of at least one halogenated propane of the formula CX.sub.3 CH.sub.2 CH.sub.y X.sub.(3-y) and/or halogenated propene of the formula CX.sub.3 CH.dbd.CH.sub.y X.sub.(2-y), where each X is Cl or F and y is 0, 1 or 2 (provided that the average fluorine content of the precursor stream is no more than 5 fluorine substituents per molecule) with HF and Cl.sub.2 in a chlorofluorination reaction zone containing a fluorination catalyst and operating at a temperature between about 150° C. and 400° C., to produce a reaction zone effluent including HF, HCl and a mixture of reaction products of the precursor feed which contains at least one compound of the formula C.sub.3 Cl.sub.2 F.sub.6 including CClF.sub.2 CClFCF.sub.3 and at least one compound of the formula C.sub.3 HClF.sub.6, including CHF.sub.2 CClFCF.sub.3 and has an average fluorine content which is at least one fluorine substituent per molecule more than the average fluorine content of the precursor stream. The chlorofluorination reaction zone effluent is distilled to produce (i) a low-boiling component including HCl (and when they are present in the reaction zone effluent, C.sub.3 F.sub.8, C.sub.3 ClF.sub.7 and C.sub.3 HF.sub.7), (ii) a hydrogenation feed component containing at least one compo of the formula C.sub.3 Cl.sub.2 F.sub.6 including CClF.sub.2 CClFCF.sub.3 and at least one compound of the formnula C.sub.3

HClF.sub.6 including CHF.sub.2 CClFCF.sub.3, and an underfluorinated component including halogenated propanes containing at least one chlorine subtituent and from one to five fluorine substituents. The CClF.sub.2 CClFCF.sub.3 and CHF.sub.2 CClFCF.sub.3 of hydrogenation feed component (ii) is reacted with hydrogen to produce a mixture including CF.sub.3 CF.dbd.CF.sub.2 and CF.sub.3 CHFCHF.sub.2 and the CF.sub.3 CF.dbd.CF.sub.2 from this product mixture is recovered. Underfluorinated component (iii) is returned to the chlorofluorination reaction zone.

L2 ANSWER 30 OF 82 USPATFULL on STN
AN 2000:132057 USPATFULL
TI Catalysts for halogenated hydrocarbon processing, their precursors and their preparation and use
IN Duzick, Timothy C., Hockessin, DE, United States
Rao, Velliyur Nott Mallikarjuna, Wilmington, DE, United States
Subramanian, Munirpallam A., Kennett Square, PA, United States
PA E. I. du Pont de Nemours and Company, Wilmington, DE, United States (U.S. corporation)
PI US 6127585 20001003
WO 9719751 19970605
AI US 1998-77267 19980527 (9)
WO 1996-US18967 19961126
19980527 PCT 371 date
19980527 PCT 102(e) date
PRAI US 1995-7734P 19951129 (60)
DT Utility
FS Granted
EXNAM Primary Examiner: Wu, David W.; Assistant Examiner: Zalukaeva, Tanya
CLMN Number of Claims: 20
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 958
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Processes are disclosed for decreasing the chlorine to carbon ratio for halogenated hydrocarbons containing chlorine and from 1 to 6 carbon atoms, in the presence of a multiphase catalyst. The processes each involve (1) preparing a single phase solid catalyst precursor which has a structure that collapses at a temperature of about 400° C. or less and has the formula (NH.sub.3).sub.6 Ru.sub.1-r-s Co.sub.r Cr.sub.s MF.sub.6, where r+s is in the range of 0.00 to 0.99, and M is at least one trivalent metal selected from the group consisting of Al, Cr, Fe, V, Sc and Ga; and (2) producing the multiphase catalyst by heating the single phase solid catalyst precursor to about 400° C. or less in an non-oxidizing atomsphere to produce a multiphase composition wherein a phase containing ruthenium is homogeneously dispersed with a phase containing metal fluoride.

Also disclosed are single phase fluoride compositions having the formula (NH.sub.3).sub.6 Ru.sub.1-r-s Co.sub.r Cr.sub.s MF.sub.6, where r+s is in the range of 0.00 to 0.99, and M is at least one trivalent element selected from the group consisting of Al, Cr, Fe, V, Sc and Ga; and multiphase catalyst compositions consisting essentially of metallic ruthenium and fluorides of at least one element selected from the group consisting of Al, Co, Cr, Fe, V, Sc and Ga, wherein the ruthenium is homogeneously dispersed with phases of the fluorides.

L2 ANSWER 34 OF 82 USPATFULL on STN
AN 1999:75850 USPATFULL
TI Catalytic halogenated hydrocarbon processing and ruthenium catalysts for use therein

10/631,862

IN Rao, Velliyur Nott Mallikarjuna, Wilmington, DE, United States
PA E. I. du Pont de Nemours and Company, Wilmington, DE, United States (U.S. corporation)
PI US 5919994 19990706
WO 9719750 19970605
AI US 1997-875470 19970728 (8)
WO 1996-US18952 19961126
19970728 PCT 371 date
19970728 PCT 102(e) date
PRAI US 1995-7702P 19951129 (60)
DT Utility
FS Granted
EXNAM Primary Examiner: Yildirim, Bekir L.
CLMN Number of Claims: 8
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 1023
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Processes for decreasing the chlorine to carbon ratio for halogenated hydrocarbons containing chlorine and from 1 to 6 carbon atoms, in the presence of a catalyst are disclosed. The processes are each characterized by employing a catalyst comprising ruthenium on a support of (i) fluorided alumina, (ii) aluminum fluoride, or (iii) fluorides of Zn, Mg, Ca, Ba, Y, Sm, Eu, and/or Dy. Also disclosed are multiphase catalyst compositions of ruthenium supported on fluorides of Zn, Mg, Ca, Ba, Y, Sm, Eu and/or Dy.

L2 ANSWER 37 OF 82 PCTFULL COPYRIGHT 2004 Univentio on STN
AN 1997019751 PCTFULL ED 20020514
TIEN CATALYSTS FOR HALOGENATED HYDROCARBON PROCESSING, THEIR PRECURSORS AND THEIR PREPARATION AND USE
TIFR CATALYSEURS DE TRAITEMENT D'HYDROCARBURES HALOGENES, LEURS PRECURSEURS, LEUR PREPARATION ET LEUR UTILISATION
IN DUZICK, Timothy, C.;
RAO, Velliyur, Nott, Mallikarjuna;
SUBRAMANIAN, Munirpallam, A.
PA E.I. DU PONT DE NEMOURS AND COMPANY;
DUZICK, Timothy, C.;
RAO, Velliyur, Nott, Mallikarjuna;
SUBRAMANIAN, Munirpallam, A.
LA English
DT Patent
PI WO 9719751 A1 19970605
DS W: JP US AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE
AI WO 1996-US18967 A 19961126
PRAI US 1995-60/007,734 19951129
ABEN Processes are disclosed for decreasing the chlorine to carbon ratio for halogenated
hydrocarbons containing chlorine and from 1 to 6 carbon atoms, in the presence of a multiphase
catalyst. The processes each involve (1) preparing a single phase solid catalyst precursor which has
a structure that collapses at a temperature of about 400 °C or less and has the formula
(NH3)6Ru1-r-sCorCrsMF6, where r+s is in the range of 0.00 to 0.99, and M is at least one trivalent
metal selected from the group consisting of Al, Cr, Fe, V, Sc and Ga; and (2) producing the
multiphase catalyst by heating the single phase solid catalyst precursor to about 400 °C or less in
a non-oxidizing atmosphere to produce a multiphase composition wherein a phase containing ruthenium

is homogeneously dispersed with a phase containing metal fluoride. Also disclosed are single phase fluoride compositions having the formula (NH3)6Ru1-r-sCorCrsMF6, where r+s is in the range of 0.00 to 0.99, and M is at least one trivalent element selected from the group consisting of Al, Cr, Fe, V, Sc and Ga; and multiphase catalyst compositions consisting essentially of metallic ruthenium and fluorides of at least one element selected from the group consisting of Al, Co, Cr, Fe, V, Sc and Ga, wherein the ruthenium is homogeneously dispersed with phases of the fluorides.

ABFR L'invention concerne des procedes servant a diminuer le rapport entre le chlore et le carbone pour des hydrocarbures halogenes contenant du chlore et de 1 a 6 atomes de carbone, en presence d'un catalyseur a phases multiples. Ces procedes consistent chacun (1) a preparer un precurseur de catalyseur solide monophase, dont la structure s'affaisse a une temperature egale ou inferieure a 400 °C et qui possede la formule (NH3)6Ru1-r-sCorCrsMF6 dans laquelle r+s est situe dans la plage de 0,00 a 0,99 et M represente au moins un metal trivalent selectionne dans le groupe constitue par Al, Cr, Fe, V, Sc et Ga et (2) a produire le catalyseur a phases multiples par rechauffement du catalyseur solide monophase a une temperature egale ou inferieure a 400 °C dans une atmosphere non oxydante, afin d'obtenir une composition a phases multiples dans laquelle une phase contenant ruthenium est dispersee de facon homogene avec une phase contenant fluorure metallique. L'invention concerne egalement des compositions monophases de fluor possedant la formule (NH3)6RU1-r-sCorCrsMF6 dans laquelle r+s est situe dans la plage de 0,00 a 0,99 et M represente au moins un element trivalent selectionne dans le groupe constitue par Al, Cr, Fe, V, Sc et Ga, ainsi que des compositions de catalyseur a phases multiples constituees essentiellement par ruthenium et des fluorures metalliques d'au moins un element selectionne dans le groupe constitue par Al, Co, Cr, Fe, V, Sc et Ga, le ruthenium etant disperse de facon homogene avec des phases des fluorures.

L2 ANSWER 81 OF 82 USPATFULL on STN
AN 90:34289 USPATFULL
TI Gas-phase fluorination process
IN Manzer, Leo E., Wilmington, DE, United States
PA E. I. du Pont de Nemours and Company, Wilmington, DE, United States (U.S. corporation)
PI US 4922037 19900501
AI US 1989-355867 19890519 (7)
RLI Continuation of Ser. No. US 1988-160003, filed on 24 Feb 1988, now abandoned
DT Utility
FS Granted
EXNAM Primary Examiner: Evans, J. E.
LREP Shipley, James E.
CLMN Number of Claims: 13
ECL Exemplary Claim: 1
DRWN No Drawings

10/631,862

LN.CNT 397
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB An improved process for the manufacture of 1,1,1,2-tetrafluoroethane, more particularly, a gas-phase reaction of a 1,1,1-trifluorochloroethane with hydrogen fluoride in the presence of a selected metal on aluminum fluoride or carbon.

L2 ANSWER 82 OF 82 JAPIO (C) 2004 JPO on STN
AN 2004-068007 JAPIO
TI METHOD FOR PRODUCING PERFLUOROPOLYETHERS HAVING ALDEHYDE, ALCOHOL, AND AMINE TERMINAL GROUPS
IN DI MEO ANTONELLO; PICOZZI ROSALDO; TONELLI CLAUDIO
PA SOLVAY SOLEXIS SPA
PI JP 2004068007 A 20040304 Heisei
AI JP 2003-205414 (JP2003205414 Heisei) 20030801
PRAI IT 2002-MI02 1734 20020801
SO PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 2004
AB PROBLEM TO BE SOLVED: To provide a method for producing a reduced compound having a corresponding aldehyde, alcohol, or amine terminal group in a high yield of >=90% from precursors of perfluoropolyethers having an acyl-chloride, aldehyde or nitrile terminal group.
SOLUTION: The problem is solved by the method for producing a perfluoropolyether having a reactive terminal group of -CH<SB>2</SB>NH<SB>2</SB>, -CHO, or CH<SB>2</SB>OH by reducing the corresponding perfluoropolyether having a -CN, -COCl, or -CHO terminal group using a hydrogen gas in the presence of a catalyst constituted with Pd, Rh, and Ru supported on a solid metallic fluoride at a temperature of 20-150°C under a pressure of 1-50 atmospheric

=> log y

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	279.66	279.87

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-0.70	-0.70

STN INTERNATIONAL LOGOFF AT 09:07:39 ON 10 NOV 2004

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:SSSPTA1204RXW

PASSWORD:
TERMINAL (ENTER 1, 2, 3, OR ?):2

* * * * * * * * * * Welcome to STN International * * * * * * * * * *

NEWS	1		Web Page URLs for STN Seminar Schedule - N. America
NEWS	2		"Ask CAS" for self-help around the clock
NEWS	3	JUL 12	BEILSTEIN enhanced with new display and select options, resulting in a closer connection to BABS
NEWS	4	AUG 02	IFIPAT/IFIUDB/IFICDB reloaded with new search and display fields
NEWS	5	AUG 02	CAplus and CA patent records enhanced with European and Japan Patent Office Classifications
NEWS	6	AUG 02	The Analysis Edition of STN Express with Discover! (Version 7.01 for Windows) now available
NEWS	7	AUG 27	BIOCOMMERCE: Changes and enhancements to content coverage
NEWS	8	AUG 27	BIOTECHABS/BIOTECHDS: Two new display fields added for legal status data from INPADOC
NEWS	9	SEP 01	INPADOC: New family current-awareness alert (SDI) available
NEWS	10	SEP 01	New pricing for the Save Answers for SciFinder Wizard within STN Express with Discover!
NEWS	11	SEP 01	New display format, HITSTR, available in WPIDS/WPINDEX/WPIX
NEWS	12	SEP 27	STANDARDS will no longer be available on STN
NEWS	13	SEP 27	SWETSCAN will no longer be available on STN
NEWS	14	OCT 28	KOREAPAT now available on STN

NEWS EXPRESS	OCTOBER 29 CURRENT WINDOWS VERSION IS V7.01A, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 11 AUGUST 2004
NEWS HOURS	STN Operating Hours Plus Help Desk Availability
NEWS INTER	General Internet Information
NEWS LOGIN	Welcome Banner and News Items
NEWS PHONE	Direct Dial and Telecommunication Network Access to STN
NEWS WWW	CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that specific topic.

All use of STN is subject to the provisions of the STN Customer agreement. Please note that this agreement limits use to scientific research. Use for software development or design or implementation of commercial gateways or other similar uses is prohibited and may result in loss of user privileges and other penalties.

* * * * * * * * * * * * * * * STN Columbus * * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 06:56:09 ON 10 NOV 2004

=> file reg
COST IN U.S. DOLLARS SINCE FILE ENTRY TOTAL SESSION

FULL ESTIMATED COST 0.42 0.42

FILE 'REGISTRY' ENTERED AT 06:57:21 ON 10 NOV 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 8 NOV 2004 HIGHEST RN 777024-10-9
DICTIONARY FILE UPDATES: 8 NOV 2004 HIGHEST RN 777024-10-9

TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

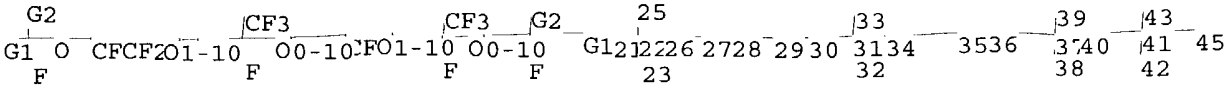
=> ....Testing the current file.... screen

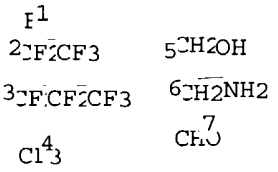
ENTER SCREEN EXPRESSION OR (END):end

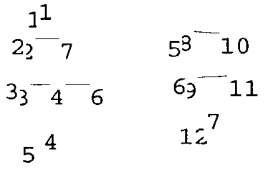
=> screen 1994 OR 2016 OR 2021 OR 2026 OR 1929 OR 1838

L1 SCREEN CREATED

=>
Uploading C:\Program Files\Stnexp\Queries\10630698.str







chain nodes :
1 2 3 4 5 6 7 8 9 10 11 12 21 22 23 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 45
chain bonds :
2-7 3-4 4-6 8-10 9-11 21-22 22-23 22-25 22-26 26-27 27-28 28-29 29-30 30-31 31-32 31-33 31-34 34-35 35-36 36-37 37-40 37-38 37-39 40-41 41-42 41-43 41-45

exact/norm bonds :
21-22 22-25 22-26 31-34 36-37 37-40 40-41 41-43 41-45
exact bonds :
2-7 3-4 4-6 8-10 9-11 22-23 26-27 27-28 28-29 29-30 30-31 31-32 31-33
34-35 35-36 37-38 37-39 41-42

G1:[*1],[*2],[*3],[*4],[*5],[*6],[*7]

G2:[*1],[*2]

Match level :
1:CLASS 2:CLASS 3:CLASS 4:CLASS 5:CLASS 6:CLASS 7:CLASS 8:CLASS 9:CLASS
10:CLASS 11:CLASS 12:CLASS 21:CLASS 22:CLASS 23:CLASS 25:CLASS 26:CLASS
27:CLASS 28:CLASS 29:CLASS 30:CLASS 31:CLASS 32:CLASS 33:CLASS 34:CLASS
35:CLASS 36:CLASS 37:CLASS 38:CLASS 39:CLASS 40:CLASS 41:CLASS 42:CLASS
43:CLASS 45:CLASS

L2 STRUCTURE UPLOADED

=> que L2 NOT L1

L3 QUE L2 NOT L1

=> s l3
STRUCTURE TOO LARGE - SEARCH ENDED
A structure in your query is too large. You may delete
attributes or atoms to reduce the size of the structure
and try again.

=> file stnguide

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.84	1.26

FILE 'STNGUIDE' ENTERED AT 06:58:40 ON 10 NOV 2004
USE IS SUBJECT TO THE TERMS OF YOUR CUSTOMER AGREEMENT
COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY, JAPAN SCIENCE
AND TECHNOLOGY CORPORATION, AND FACHINFORMATIONSZENTRUM KARLSRUHE

FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Nov 5, 2004 (20041105/UP).

=> file reg

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.36	1.62

FILE 'REGISTRY' ENTERED AT 07:02:23 ON 10 NOV 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2004 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES: 8 NOV 2004 HIGHEST RN 777024-10-9
DICTIONARY FILE UPDATES: 8 NOV 2004 HIGHEST RN 777024-10-9

TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

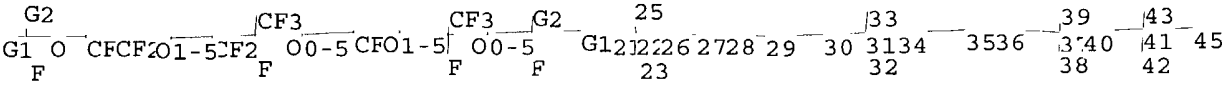
=> ....Testing the current file.... screen

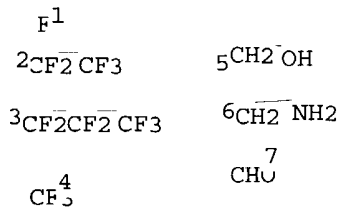
ENTER SCREEN EXPRESSION OR (END):end

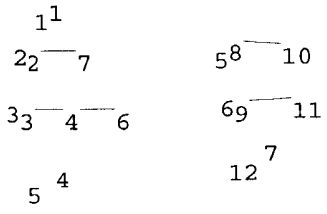
=> screen 1994 OR 2016 OR 2021 OR 2026 OR 1929 OR 1838

L4 SCREEN CREATED

=>
Uploading C:\Program Files\Stnexp\Queries\10630698a.str







chain nodes :
1 2 3 4 5 6 7 8 9 10 11 12 21 22 23 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 41 42 43 45
chain bonds :
2-7 3-4 4-6 8-10 9-11 21-22 22-23 22-25 22-26 26-27 27-28 28-29 29-30
30-31 31-32 31-33 31-34 34-35 35-36 36-37 37-40 37-38 37-39 40-41 41-42
41-43 41-45
exact/norm bonds :
21-22 22-25 22-26 31-34 36-37 37-40 40-41 41-43 41-45
exact bonds :
2-7 3-4 4-6 8-10 9-11 22-23 26-27 27-28 28-29 29-30 30-31 31-32 31-33
34-35 35-36 37-38 37-39 41-42

10/631,862

G1:[*1],[*2],[*3],[*4],[*5],[*6],[*7]

G2:[*1],[*2]

Match level :
1:CLASS 2:CLASS 3:CLASS 4:CLASS 5:CLASS 6:CLASS 7:CLASS 8:CLASS 9:CLASS
10:CLASS 11:CLASS 12:CLASS 21:CLASS 22:CLASS 23:CLASS 25:CLASS 26:CLASS
27:CLASS 28:CLASS 29:CLASS 30:CLASS 31:CLASS 32:CLASS 33:CLASS 34:CLASS
35:CLASS 36:CLASS 37:CLASS 38:CLASS 39:CLASS 40:CLASS 41:CLASS 42:CLASS
43:CLASS 45:CLASS

L5 STRUCTURE UPLOADED

=> que L5 NOT L4

L6 QUE L5 NOT L4

=> s l6
STRUCTURE TOO LARGE - SEARCH ENDED
A structure in your query is too large. You may delete
attributes or atoms to reduce the size of the structure
and try again.

=> file stnguide

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.84	2.46

FILE 'STNGUIDE' ENTERED AT 07:03:35 ON 10 NOV 2004
USE IS SUBJECT TO THE TERMS OF YOUR CUSTOMER AGREEMENT
COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY, JAPAN SCIENCE
AND TECHNOLOGY CORPORATION, AND FACHINFORMATIONSZENTRUM KARLSRUHE

FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Nov 5, 2004 (20041105/UP).

=> file reg

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.30	2.76

FILE 'REGISTRY' ENTERED AT 07:06:51 ON 10 NOV 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2004 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES: 8 NOV 2004 HIGHEST RN 777024-10-9
DICTIONARY FILE UPDATES: 8 NOV 2004 HIGHEST RN 777024-10-9

TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

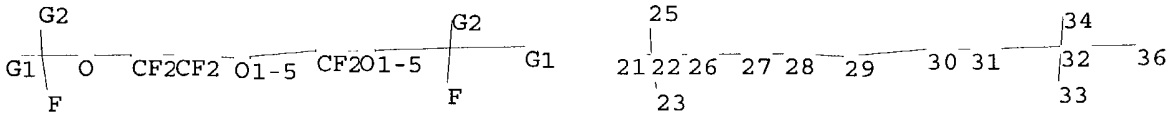
=> ....Testing the current file.... screen

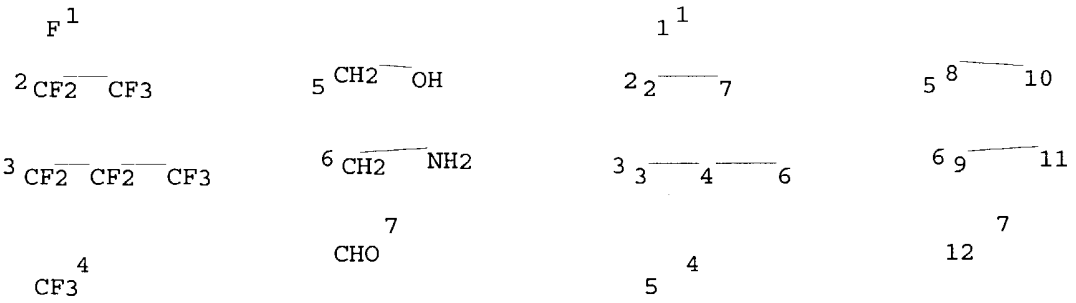
ENTER SCREEN EXPRESSION OR (END):end

=> screen 1994 OR 2016 OR 2021 OR 2026 OR 1929 OR 1838

L7 SCREEN CREATED

=>
Uploading C:\Program Files\Stnexp\Queries\10630698b.str





chain nodes :
1 2 3 4 5 6 7 8 9 10 11 12 21 22 23 25 26 27 28 29 30 31 32 33 34 36
chain bonds :
2-7 3-4 4-6 8-10 9-11 21-22 22-23 22-25 22-26 26-27 27-28 28-29 29-30 30-31 31-32 32-36 32-33 32-34
exact/norm bonds :
21-22 22-25 22-26 31-32 32-36 32-34
exact bonds :
2-7 3-4 4-6 8-10 9-11 22-23 26-27 27-28 28-29 29-30 30-31 32-33

G1:[*1],[*2],[*3],[*4],[*5],[*6],[*7]

G2:[*1],[*2]

Match level :
1:CLASS 2:CLASS 3:CLASS 4:CLASS 5:CLASS 6:CLASS 7:CLASS 8:CLASS 9:CLASS
10:CLASS 11:CLASS 12:CLASS 21:CLASS 22:CLASS 23:CLASS 25:CLASS 26:CLASS
27:CLASS 28:CLASS 29:CLASS 30:CLASS 31:CLASS 32:CLASS 33:CLASS 34:CLASS
36:CLASS

L8 STRUCTURE UPLOADED

=> que L8 NOT L7

L9 QUE L8 NOT L7

=> d
L9 HAS NO ANSWERS
L7 SCR 1994 OR 2016 OR 2021 OR 2026 OR 1929 OR 1838
L8 STR

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

Structure attributes must be viewed using STN Express query preparation.
L9 QUE L8 NOT L7

=> s l9
SAMPLE SEARCH INITIATED 07:07:31 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 0 TO ITERATE

100.0% PROCESSED 0 ITERATIONS 0 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 0 TO 0
PROJECTED ANSWERS: 0 TO 0

L10 0 SEA SSS SAM L8 NOT L7

=> s l9 ful
FULL SEARCH INITIATED 07:07:40 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 0 TO ITERATE

100.0% PROCESSED 0 ITERATIONS 0 ANSWERS
SEARCH TIME: 00.00.01

L11 0 SEA SSS FUL L8 NOT L7

=> file stnguide
COST IN U.S. DOLLARS SINCE FILE ENTRY TOTAL SESSION
FULL ESTIMATED COST 156.26 159.02

FILE 'STNGUIDE' ENTERED AT 07:08:21 ON 10 NOV 2004
USE IS SUBJECT TO THE TERMS OF YOUR CUSTOMER AGREEMENT

FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Nov 5, 2004 (20041105/UP).

=> file reg

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.54	159.56

FILE 'REGISTRY' ENTERED AT 07:13:48 ON 10 NOV 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2004 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES: 8 NOV 2004 HIGHEST RN 777024-10-9
DICTIONARY FILE UPDATES: 8 NOV 2004 HIGHEST RN 777024-10-9

TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

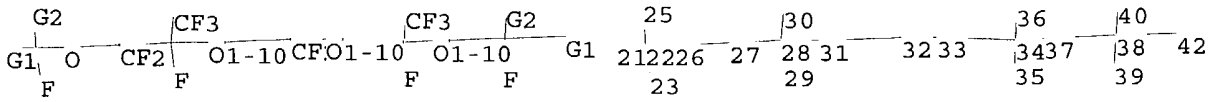
=> ....Testing the current file.... screen

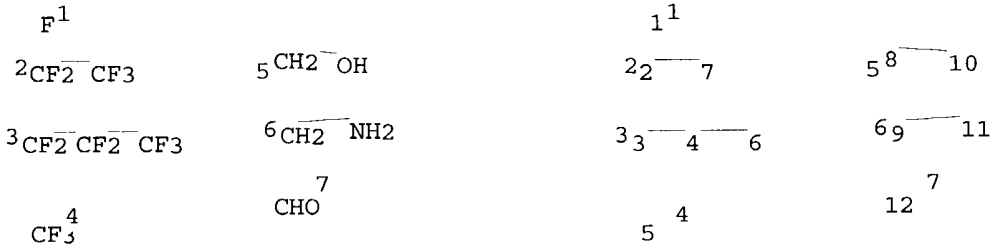
ENTER SCREEN EXPRESSION OR (END):end

=> screen 1994 OR 2016 OR 2021 OR 2026 OR 1929 OR 1838

L12 SCREEN CREATED

=>
Uploading C:\Program Files\Stnexp\Queries\10630698c.str





chain nodes :
1 2 3 4 5 6 7 8 9 10 11 12 21 22 23 25 26 27 28 29 30 31 32
33 34 35 36 37 38 39 40 42
chain bonds :
2-7 3-4 4-6 8-10 9-11 21-22 22-23 22-25 22-26 26-27 27-28 28-29 28-30
28-31 31-32 32-33 33-34 34-37 34-35 34-36 37-38 38-39 38-40 38-42
exact/norm bonds :
21-22 22-25 22-26 28-31 33-34 34-37 37-38 38-40 38-42
exact bonds :
2-7 3-4 4-6 8-10 9-11 22-23 26-27 27-28 28-29 28-30 31-32 32-33 34-35
34-36 38-39

G1:[*1],[*2],[*3],[*4],[*5],[*6],[*7]

G2:[*1],[*2]

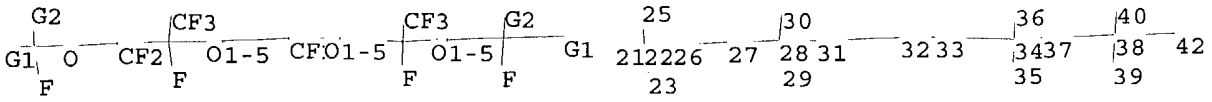
Match level :
1:CLASS 2:CLASS 3:CLASS 4:CLASS 5:CLASS 6:CLASS 7:CLASS 8:CLASS 9:CLASS
10:CLASS 11:CLASS 12:CLASS 21:CLASS 22:CLASS 23:CLASS 25:CLASS 26:CLASS
27:CLASS 28:CLASS 29:CLASS 30:CLASS 31:CLASS 32:CLASS 33:CLASS 34:CLASS
35:CLASS 36:CLASS 37:CLASS 38:CLASS 39:CLASS 40:CLASS 42:CLASS

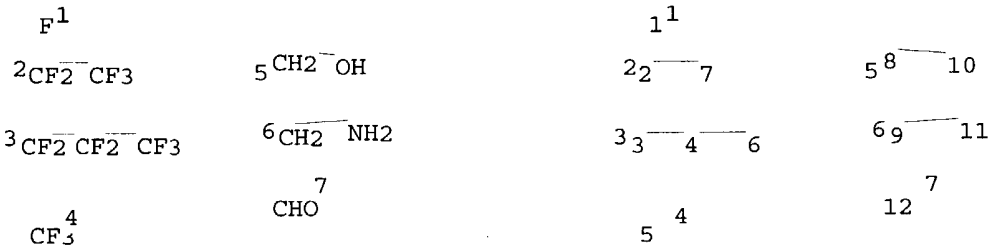
L13 STRUCTURE UPLOADED

=> que L13 NOT L12

L14 QUE L13 NOT L12

```
=> s l14
STRUCTURE TOO LARGE - SEARCH ENDED
A structure in your query is too large.  You may delete
attributes or atoms to reduce the size of the structure
and try again.

=> file stnguide
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     0.84     160.40

FILE 'STNGUIDE' ENTERED AT 07:14:45 ON 10 NOV 2004
USE IS SUBJECT TO THE TERMS OF YOUR CUSTOMER AGREEMENT
COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY, JAPAN SCIENCE
AND TECHNOLOGY CORPORATION, AND FACHINFORMATIONSZENTRUM KARLSRUHE

FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Nov  5, 2004 (20041105/UP).

=> file reg
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     0.30     160.70

FILE 'REGISTRY' ENTERED AT 07:17:49 ON 10 NOV 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2004 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES:     8 NOV 2004  HIGHEST RN 777024-10-9
DICTIONARY FILE UPDATES:    8 NOV 2004  HIGHEST RN 777024-10-9

TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

Crossover limits have been increased.  See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

=> ....Testing the current file.... screen

ENTER SCREEN EXPRESSION OR (END):end


=> screen 1994 OR  2016 OR  2021 OR  2026 OR  1838

L15   SCREEN CREATED

=>
Uploading C:\Program Files\Stnexp\Queries\10630698d.str
```





chain nodes :
1 2 3 4 5 6 7 8 9 10 11 12 21 22 23 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 42
chain bonds :
2-7 3-4 4-6 8-10 9-11 21-22 22-23 22-25 22-26 26-27 27-28 28-29 28-30 28-31 31-32 32-33 33-34 34-37 34-35 34-36 37-38 38-39 38-40 38-42
exact/norm bonds :
21-22 22-25 22-26 28-31 33-34 34-37 37-38 38-40 38-42
exact bonds :
2-7 3-4 4-6 8-10 9-11 22-23 26-27 27-28 28-29 28-30 31-32 32-33 34-35 34-36 38-39

G1:[*1],[*2],[*3],[*4],[*5],[*6],[*7]

G2:[*1],[*2]

Match level :
1:CLASS 2:CLASS 3:CLASS 4:CLASS 5:CLASS 6:CLASS 7:CLASS 8:CLASS 9:CLASS 10:CLASS 11:CLASS 12:CLASS 21:CLASS 22:CLASS 23:CLASS 25:CLASS 26:CLASS 27:CLASS 28:CLASS 29:CLASS 30:CLASS 31:CLASS 32:CLASS 33:CLASS 34:CLASS 35:CLASS 36:CLASS 37:CLASS 38:CLASS 39:CLASS 40:CLASS 42:CLASS

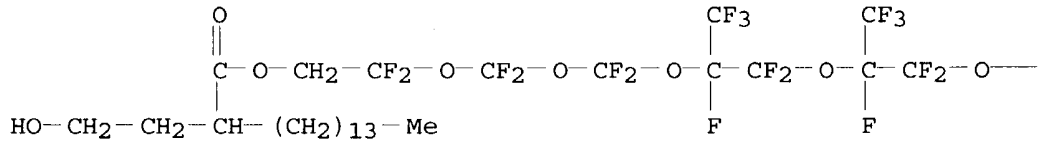
L16 STRUCTURE UPLOADED

=> que L16 NOT L15

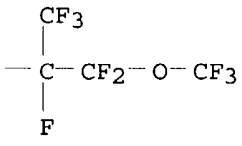
L17 QUE L16 NOT L15

```
=> s l17
SAMPLE SEARCH INITIATED 07:18:20 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED -     174 TO ITERATE

100.0% PROCESSED     174 ITERATIONS  (     10 INCOMPLETE)       10 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS:  ONLINE  **COMPLETE**
                        BATCH   **COMPLETE**
PROJECTED ITERATIONS:          2689 TO     4271
PROJECTED ANSWERS:               11 TO      389

L18          10 SEA SSS SAM L16 NOT L15

=> s l17 ful
FULL SEARCH INITIATED 07:18:29 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED -   3484 TO ITERATE

100.0% PROCESSED    3484 ITERATIONS  (    156 INCOMPLETE)      156 ANSWERS
SEARCH TIME: 00.00.07

L19         156 SEA SSS FUL L16 NOT L15

=> d scan

L19  156 ANSWERS   REGISTRY  COPYRIGHT 2004 ACS on STN
     ITERATION INCOMPLETE
IN   Hexadecanoic acid, 2-(2-hydroxyethyl)-, 2,2,4,4,6,6,8,9,9,11,12,12,14,15,1
     5,17,17,17-octadecafluoro-8,11,14-tris(trifluoromethyl)-3,5,7,10,13,16-
     hexaoxaheptadec-1-yl ester (9CI)
MF   C32 H37 F27 O9
```

PAGE 1-A



PAGE 1-B



```
**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**


HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):file caplus casreact uspatful
'FILE CAPLUS CASREACT USPATFUL' IS NOT VALID HERE

To display more answers, enter the number of answers you would like to
see.  To end the display, enter "NONE", "N", "0", or "END".
HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):0
```

```
=> file caplus casreact uspatful
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                   156.68     317.38

FILE 'CAPLUS' ENTERED AT 07:20:01 ON 10 NOV 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'CASREACT' ENTERED AT 07:20:01 ON 10 NOV 2004
USE IS SUBJECT TO THE TERMS OF YOUR CUSTOMER AGREEMENT
COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'USPATFULL' ENTERED AT 07:20:01 ON 10 NOV 2004
CA INDEXING COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

=> s l19
L20         120 L19

=> dup rem l20
PROCESSING COMPLETED FOR L20
L21          108 DUP REM L20 (12 DUPLICATES REMOVED)

=> d 1-108 ti

L21  ANSWER 1 OF 108  CAPLUS  COPYRIGHT 2004 ACS on STN
TI   Manufacture of magnetic recording media

L21  ANSWER 2 OF 108  USPATFULL on STN
TI     Novel aerosol formulation containing a polar fluorinated molecule

L21  ANSWER 3 OF 108  USPATFULL on STN
TI     Amphiphilic lubricants for magnetic media

L21  ANSWER 4 OF 108  CAPLUS  COPYRIGHT 2004 ACS on STN DUPLICATE 1
TI   Amphiphilic lubricants with central polar polyfunctional group and pair of
     fluoroalkylether endgroups as topcoats for magnetic recording media

L21  ANSWER 5 OF 108  CAPLUS  COPYRIGHT 2004 ACS on STN
TI   Aerosol formulation containing a polar fluorinated compound

L21  ANSWER 6 OF 108  USPATFULL on STN
TI     Process for thermal decomposition of hexafluoropropylene oxide oligomers

L21  ANSWER 7 OF 108  CAPLUS  COPYRIGHT 2004 ACS on STN DUPLICATE 2
TI   Perfluorinated organo substituted cyclosiloxanes and copolymers prepared
     from these cyclosiloxanes

L21  ANSWER 8 OF 108  CAPLUS  COPYRIGHT 2004 ACS on STN DUPLICATE 3
TI   Perfluorinated ether organo substituted cyclosiloxanes and siloxane
     (co)polymers prepared from these cyclosiloxanes

L21  ANSWER 9 OF 108  CAPLUS  COPYRIGHT 2004 ACS on STN
TI   Magnetic recording medium with fluorine-containing alkylcarboxylic acid
     lubricating layer

L21  ANSWER 10 OF 108  CAPLUS  COPYRIGHT 2004 ACS on STN
TI   Process for thermal decomposition of hexafluoropropylene oxide oligomers

L21  ANSWER 11 OF 108  CAPLUS  COPYRIGHT 2004 ACS on STN
```

TI Process for preparation of hexafluoropropylene oxide by oxidation of hexafluoropropylene

L21 ANSWER 12 OF 108 USPATFULL on STN
TI Fluoroalkylated amphiphilic ligands, their metallic complexes and their uses

L21 ANSWER 13 OF 108 USPATFULL on STN
TI Amides and esters of perfluoropolyoxaalkylene-sulfo- or perfluoropolyoxaalkylene-carboxylic acids and a process for producing same

L21 ANSWER 14 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Water Core within Perfluoropolyether-Based Microemulsions Formed in Supercritical Carbon Dioxide

L21 ANSWER 15 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Adsorption of fluorine-containing surfactants from aqueous solutions on the surface of polyamide fibers

L21 ANSWER 16 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Radical additions to fluoroolefins. Photochemical mono-fluoroalkylation and sequential bis-fluoroalkylation of oxolane

L21 ANSWER 17 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Effect of colloidal-chemical properties of fluorine-containing latexes and fluorocarbon surfactants on the modification of textiles

L21 ANSWER 18 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 4
TI Fluorine-containing alkylsuccinic acid diester and its preparation and use as a lubricant for magnetic recording media

L21 ANSWER 19 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Manufacture of amides and esters of perfluoropolyoxyalkylenesulfonic or -carboxylic acids

L21 ANSWER 20 OF 108 USPATFULL on STN
TI Fluoroalkylated amphiphilic ligands and their metallic complexes

L21 ANSWER 21 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Reaction of perfuoropolyoxapolypropenecarboxylic acids with metal carbonates and acid fluorides with 3-Amino-1,2,4-Triazole

L21 ANSWER 22 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Esterification of perfluoropolyoxapolypropylenecarboxylic acid (n = 8)

L21 ANSWER 23 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Fluoroalkylated amphiphilic ligands, their metallic complexes and their uses

L21 ANSWER 24 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Preparation of fluoroalkanoic acid esters and magnetic recording medium with lubricant layer containing them

L21 ANSWER 25 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Preparation of fluorinated alcohols and magnetic recording media using them as lubricants

L21 ANSWER 26 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Perfluorooxalkyl group-containing polymers

L21 ANSWER 27 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN

TI Perfluorooxalkyl group-terminated vinyl polymers

L21 ANSWER 28 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Preparation of polyfluoroalkanoyl peroxides as polymerization initiators

L21 ANSWER 29 OF 108 USPATFULL on STN
TI Polyfluoroalkanoyl peroxide

L21 ANSWER 30 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Surface activity of fluorine-containing surfactants in polar solvents and water-organic mixtures

L21 ANSWER 31 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Preparation of perfluoroacetal and perfluoroketal compounds and use thereof in thermal shock testing

L21 ANSWER 32 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Methylcarbinol-terminated hexafluoropropylene oxide oligoether derivatives

L21 ANSWER 33 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Preparation of carbonyl fluorides by oligomerization of hexafluoropropene oxides

L21 ANSWER 34 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Process and catalysts for the manufacture of hexafluorpropylene oxide oligomers

L21 ANSWER 35 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Electrolytic decarboxylation of perfluorocarboxylic acids or their soluble salts and subsequent dimerization of the radicals produced

L21 ANSWER 36 OF 108 USPATFULL on STN
TI Process for the oligomerization of hexafluoropropene oxide

L21 ANSWER 37 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Aggregation of perfluorinated polymers in aqueous solution studied by ESR

L21 ANSWER 38 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Process for preparation of perfluorinated carboxylic acid fluorides

L21 ANSWER 39 OF 108 USPATFULL on STN
TI Process for the preparation of perfluorinated carbonyl fluorides

L21 ANSWER 40 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 5
TI Preparation of carbonyl fluoride compounds

L21 ANSWER 41 OF 108 USPATFULL on STN
TI Fluoropolyethers containing end groups endowed with anchoring capacity

L21 ANSWER 42 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Fuel cells

L21 ANSWER 43 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 6
TI Fluorine-containing methacrylate esters

L21 ANSWER 44 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Fluorine-containing polymers with oxyen permeability for medical use

L21 ANSWER 45 OF 108 USPATFULL on STN
TI Shaped article of synthetic resin having improved surface

L21 ANSWER 46 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN

TI Synthetic resin films with water and oil repellence

L21 ANSWER 47 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Lubricant finishes

L21 ANSWER 48 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Fluoropolyether compounds

L21 ANSWER 49 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Surface active substances containing an oligo(hexafluoropropene oxide) chain as a hydrophobic oleophobic moiety

L21 ANSWER 50 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Acrylic acid esters

L21 ANSWER 51 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Water and oil repellents

L21 ANSWER 52 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Synthesis of fluorinated surfactants containing hexafluoropropene oxide as a hydrophobic group and properties of the solutions

L21 ANSWER 53 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Polymerization of fluorine-containing monomers

L21 ANSWER 54 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Foaming agent for extinguishing fires

L21 ANSWER 55 OF 108 USPATFULL on STN
TI Alkyl perfluoro-ω-fluoroformyl esters and their preparation

L21 ANSWER 56 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Methods of calculating engineering parameters for gas separations

L21 ANSWER 57 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 7
TI Alkyl perfluoro-ω-fluoroformyl esters and monomers therefrom

L21 ANSWER 58 OF 108 USPATFULL on STN
TI Process for the preparation of fluorine-containing ketones

L21 ANSWER 59 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Alkylperfluoro-ω-fluoroformyl esters

L21 ANSWER 60 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Perfluoro ketones

L21 ANSWER 61 OF 108 USPATFULL on STN
TI Alkyl perfluoro-ω-fluoroformyl esters and their preparation

L21 ANSWER 62 OF 108 USPATFULL on STN
TI Fluorocarbon triazine polymers

L21 ANSWER 63 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Synthesis of perfluoro(polyether) difunctional compounds

L21 ANSWER 64 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Methods for the estimation of vapor pressures and oxygen solubilities of fluorochemicals for possible application in artificial blood formulations

L21 ANSWER 65 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 8
TI Fluorocarbon dye dispersion for exhaust disperse dyeing

L21 ANSWER 66 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Fluorocarbon triazine polymers

L21 ANSWER 67 OF 108 USPATFULL on STN
TI Fluoroalkyleneether difunctional compounds

L21 ANSWER 68 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Study of the kinetics of the reaction of hexafluoropropylene oxide with organic salts in a medium of aprotic solvents

L21 ANSWER 69 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Oligomeric fluorinated additives as surface modifiers for solid polymers

L21 ANSWER 70 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI The solubility of oxygen in highly fluorinated liquids

L21 ANSWER 71 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 9
TI Rapid fixation of disperse dyes on synthetic polymers

L21 ANSWER 72 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 10
TI Displacement of organic liquid films from solid surfaces by nonaqueous systems

L21 ANSWER 73 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Exhaust dyeing of synthetic polymers with dyes dispersed in solution or emulsion in a saturated liquid fluorocarbon

L21 ANSWER 74 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Perfluorinated ethers

L21 ANSWER 75 OF 108 USPATFULL on STN
TI Process for preparing perfluorinated ethers

L21 ANSWER 76 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Colloidal-chemical properties of solutions of surfactants based on perfluoropropylene oxide oligomers. 1. Surface activity of ammonium salts of perfluorooligoestermonocarboxylic acids at the aqueous solution-air interface

L21 ANSWER 77 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Oligomeric fluorinated additives as surface modifiers for solid polymers

L21 ANSWER 78 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 11
TI Exhaust disperse dyeing of synthetic polymers using a saturated liquid fluorocarbon

L21 ANSWER 79 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 12
TI Bis-triazine compounds

L21 ANSWER 80 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Exhaust disperse dyeing of synthetic fibers

L21 ANSWER 81 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Fluoroalkylene ether difunctional compounds

L21 ANSWER 82 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Dyeing synthetic fabrics with disperse dyes in fluorocarbon solvents

L21 ANSWER 83 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Dispersion of dye in a fluorocarbon for exhaust dyeing

L21 ANSWER 84 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN

TI Rapid fixation of disperse dyes on synthetic polymers

L21 ANSWER 85 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Fluorocarbon-dye dispersion for exhaust dispersion dyeing

L21 ANSWER 86 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Exhaustion dyeing of films, fibers, and textiles of synthetic polymers with disperse dyes

L21 ANSWER 87 OF 108 USPATFULL on STN
TI Acrylic and methacrylic monomers, polymers and copolymers

L21 ANSWER 88 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Perfluorinated linear polyethers having reactive terminal groups at both ends of the chain

L21 ANSWER 89 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Perfluoroalkyletheramidoalkyl betaines and sulfobetaines

L21 ANSWER 90 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI α,ω-Di-s-triazinyl perfluorooxaalkanes

L21 ANSWER 91 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Polyfluoroalkoxy alkyl amidocarboxylic acids and salts

L21 ANSWER 92 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Solid lubricant additives dispersed in perfluoroalkyl ethers with perfluoroalkyl ether acid dispersants

L21 ANSWER 93 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Perfluoropolyethers by photooxidation of fluoroolefins

L21 ANSWER 94 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Perfluoropoly(ether esters) as lubricants and hydraulic fluids

L21 ANSWER 95 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Esters of hexafluoropropylene oxide polymer acids and polyalkylene glycols

L21 ANSWER 96 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Liquid phase decarbonylation of fluorinated acyl fluorides

L21 ANSWER 97 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Acrylate-type esters of perfluoropolyoxaalkaneamidoalkyl alcohols, and their polymers which are useful as oil and water repellents and as metal corrosion inhibitors

L21 ANSWER 98 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Elastomers comprising acrylic and methacrylic derivatives of polyfluoropolyethers

L21 ANSWER 99 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Polyfluoropolyoxaalkyl acrylates and N-(polyfluoropolyoxaalkyl)acrylamides

L21 ANSWER 100 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Perfluoroalkyl ether amidoamine oxides

L21 ANSWER 101 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Oil repellent polyfluoropolyoxo-alkyl phosphates

L21 ANSWER 102 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Vaporization and decomposition kinetics of candidate re-entry blackout suppressants in low-pressure flames

L21 ANSWER 103 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI High temperature study of electrophilic gases for plasma quenching

L21 ANSWER 104 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Corrosion-inhibited poly(hexafluoropropylene oxide) lubricants

L21 ANSWER 105 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Perfluoro ketones

L21 ANSWER 106 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Perfluorinated polyethers. Synthesis and characterization of a new class of inert fluids

L21 ANSWER 107 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Fluorocarbon ethers from hexafluoropropylene oxide

L21 ANSWER 108 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
TI Dicarboxylic acids of fluorocarbon ethers and fluorides and their esters, amides, and salts

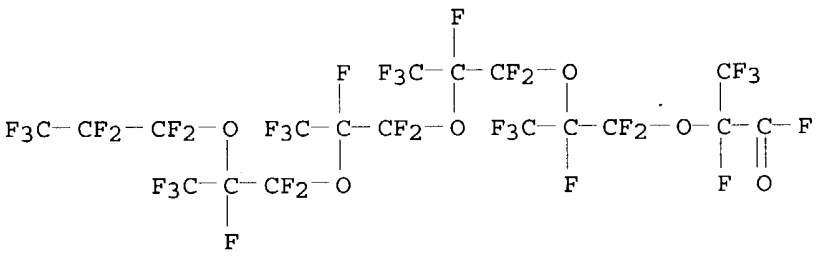
=> d 38,39,40,41,44,48,49,52,63,67,74,75,81,88,89,100,106 bib ab fhitstr

L21 ANSWER 38 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1989:614127 CAPLUS
DN 111:214127
TI Process for preparation of perfluorinated carboxylic acid fluorides
IN Kruse, Alfred; Siegemund, Guenter; Schwertfeger, Werner
PA Hoechst A.-G., Fed. Rep. Ger.
SO Ger. Offen., 5 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

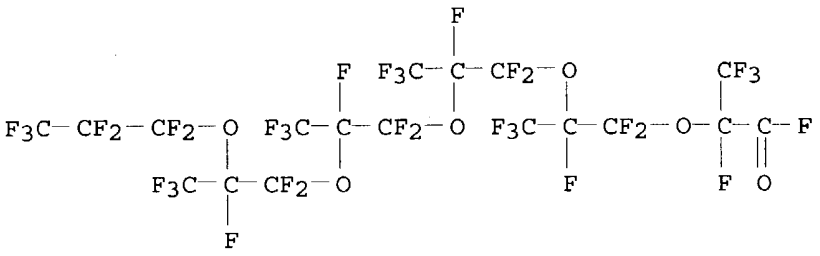
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3737920	A1	19890518	DE 1987-3737920	19871107
	US 4874557	A	19891017	US 1988-266919	19881103
	EP 315908	A1	19890517	EP 1988-118391	19881104
	EP 315908	B1	19920826		
	R: BE, CH, DE, FR, GB, IT, LI, NL				
	JP 01157933	A2	19890621	JP 1988-277536	19881104
	CN 1034199	A	19890726	CN 1988-107738	19881107
	CN 1022240	B	19930929		
PRAI	DE 1987-3737920		19871107		

OS MARPAT 111:214127
AB F3CCF2[CF2OCF(CF3)]nCOF (I; n = 2, 3), useful intermediates and monomers, are prepared by oligomerization of hexafluoropropylene oxide (II) at -20 to +100° in the presence of a catalyst system comprising: 1) alkali fluoride, preferably KF, 2-30%; 2) C5-8 alkanedinitrile, preferably adiponitrile, 50-95%; 3) MeO(CH2CH2O)mMe (III; m = 2-6, preferably 3) 2-50%. The process is advantageous in that higher temps. are used, product composition can be controlled by manipulation of the catalyst system composition, the product is readily separated, and the catalyst system can be reused. Thus, in a stainless steel autoclave a mixture of 30 g KF, 500 mL adiponitrile, and 100 mL III (m = 3) was stirred 30 min., continuously pressurized to 3.5 bar by addition of 5 kg II and stirred 2.5 h at 35-40°. After 3 h addnl. stirring the mixture readily separated into 2 phases. The lower product phase (4.90 kg) was drawn off and comprised the following I: n = 1, 21.5; n = 2, 61.1; n = 3, 16.3; and n = 4, 0.8%.
IT 13252-15-8P

RL: PREP (Preparation)
(manufacture of, by oligomerization of hexafluoropropylene oxide, catalysts for)
RN 13252-15-8 CAPLUS
CN 3,6,9,12,15-Pentaoxaoctadecanoyl fluoride, 2,4,4,5,7,7,8,10,10,11,13,13,14,16,16,17,17,18,18,18-eicosafluoro-2,5,8,11,14-pentakis(trifluoromethyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)



L21 ANSWER 39 OF 108 USPATFULL on STN
AN 89:85709 USPATFULL
TI Process for the preparation of perfluorinated carbonyl fluorides
IN Kruse, Alfred, Kelkheim, Germany, Federal Republic of
Siegemund, Gunter, Hofheim am Taunus, Germany, Federal Republic of
Schwertfeger, Werner, Langgons, Germany, Federal Republic of
PA Hoechst Aktiengesellschaft, Frankfurt am Main, Germany, Federal Republic of (non-U.S. corporation)
PI US 4874557 19891017
AI US 1988-266919 19881103 (7)
PRAI DE 1987-3737920 19871107
DT Utility
FS Granted
EXNAM Primary Examiner: Killos, Paul J.
CLMN Number of Claims: 8
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 238
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention relates to a process for the preparation of perfluorinated carbonyl fluorides of the formula ##STR1## by oligomerization of hexafluoropropene oxide in the presence of a catalyst. The catalyst comprises a mixture of an alkali metal fluoride, a carboxylic acid dinitrile and a polyethylene glycol dimethyl ether.
IT 13252-15-8P
(manufacture of, by oligomerization of hexafluoropropylene oxide, catalysts for)
RN 13252-15-8 USPATFULL
CN 3,6,9,12,15-Pentaoxaoctadecanoyl fluoride, 2,4,4,5,7,7,8,10,10,11,13,13,14,16,16,17,17,18,18,18-eicosafluoro-2,5,8,11,14-pentakis(trifluoromethyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)

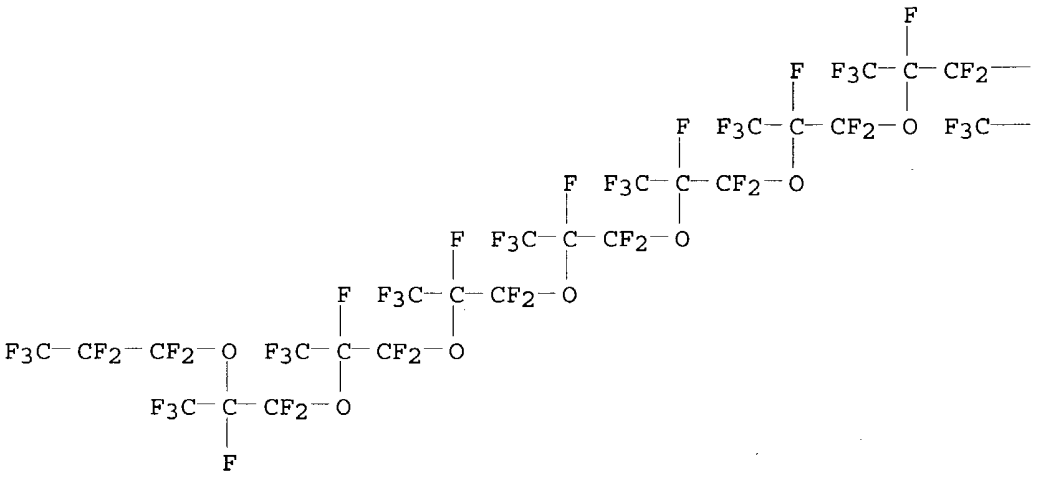


L21 ANSWER 40 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 5
AN 1989:438876 CAPLUS
DN 111:38876
TI Preparation of carbonyl fluoride compounds
IN Okabe, Jun; Tatsu, Haruyoshi
PA Nippon Mectron Co., Ltd., Japan
SO U.S., 7 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

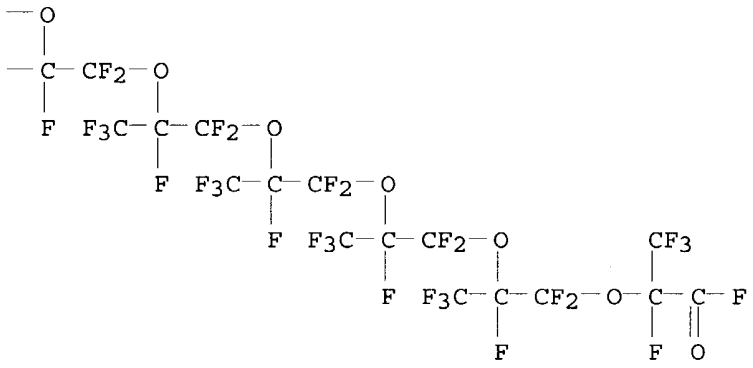
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4769184	A	19880906	US 1987-121135	19871116
	JP 01066139	A2	19890313	JP 1987-222946	19870908
	JP 08019035	B4	19960228		
	JP 01093557	A2	19890412	JP 1987-249588	19871002
	JP 2726824	B2	19980311		
PRAI	JP 1987-222946		19870908		
	JP 1987-249588		19871002		

OS MARPAT 111:38876
AB A process for producing XCOF (I; X = F, CF3) or I (X = CF3CF2), useful as intermediates for producing perfluoro(alkyl vinyl ethers) which are monomers for producing F-containing resins, F-containing rubber, etc., comprised thermally decomposing RfO(CF2CF2O)a(CF2O)b(O)cRf' (Rf = perfluoroalkyl; Rf' = COF, CF3; the CF2O and O groups are distributed at random; a, b ≠ 0; c can be 0; a + b + c ≤ .apprx.200) or RfO(CFXCF2O)nCFX'Y (X' = CF3, F, H; Y = COF, CO2H, CO2R, CF3; R = alkyl; n = 1-50), resp. F2C:CF2 and O2 were irradiated with UV to give F3CO(CF2OF2O)8(CF2O)24O0.4COF, thermal decomposition of which at 200° over activated C gave a mixture of 78.2% COF2 and 21.8% F3CCOF. I (X = F, CF3) so produced contain no Cl-based impurities.
IT 13140-28-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of, in synthesis of carbonyl fluorides)
RN 13140-28-8 CAPLUS
CN 3,6,9,12,15,18,21,24,27,30,33,36,39-Tridecaoxadotetracontanoyl fluoride, 2,4,4,5,7,7,8,10,10,11,13,13,14,16,16,17,19,19,20,22,22,23,25,25,26,28,28,29,31,31,32,34,34,35,37,37,38,40,40,41,41,42,42,42-tetratetracontafluoro-2,5,8,11,14,17,20,23,26,29,32,35,38-tridecakis(trifluoromethyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



L21 ANSWER 41 OF 108 USPATFULL on STN
AN 88:5708 USPATFULL
TI Fluoropolyethers containing end groups endowed with anchoring capacity
IN Caporiccio, Gerardo, Milan, Italy
Strepparola, Ezio, Bergamo, Italy
Scarati, Mario A., Milan, Italy
PA Montedison S.p.A., Milan, Italy (non-U.S. corporation)
PI US 4721795 19880126
AI US 1984-687844 19841231 (6)
PRAI IT 1984-21481 19840619
DT Utility
FS Granted
EXNAM Primary Examiner: Chan, Nicky
LREP Stevens, Davis, Miller & Mosher
CLMN Number of Claims: 3
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 442
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

10/631,862

AB Compounds suitable for being used as lubricants, having general formula:

(I) RO--(C.sub.3 F.sub.6 O).sub.m --(CFXO).sub.n --CFX--L, or

(II) R"CFXO--(C.sub.3 F.sub.6 O).sub.x (CFXO).sub.y --(C.sub.2 F.sub.4 O).sub.z --(CFX--L, where

R=--CF.sub.3, --C.sub.2 F.sub.5, --C.sub.3 F.sub.7

X=F, --CF.sub.3

R"=F, --CF.sub.3, --C.sub.2 F.sub.5

m=an integer from 3 to 100

n=a finite integer, or=zero, wherefore m+n ranges from 3 to 100, provided that, if n is finite, m/n ranges from 5 ro 20 and R is preferably=CF.sub.3, if n=zero, R is preferably --C.sub.2 F.sub.5 or --C.sub.3 F.sub.7

x=a finite integer, or=zero

y, z=finite integers, such that x+y+z ranges from 5 to 200, while x+z/y ranges from 5 to 0.5, provided that when x=zero, z/y ranges from 1 to 0.5 and y+z ranges from 5 to 200 n while X is preferably F, and R"=L

L=group A--Y, where

A=--CH.sub.2 O--, --CH.sub.2 --O--CH.sub.2, --CF.sub.2, CF.sub.2 O--,

Y=an organic radical covered by one of the following formulas: ##STR1## where R.sub.1, R.sub.2 =alkyls C.sub.1 -C.sub.3,

E=CHR.sub.3 or --CH.sub.2 --CHR.sub.3

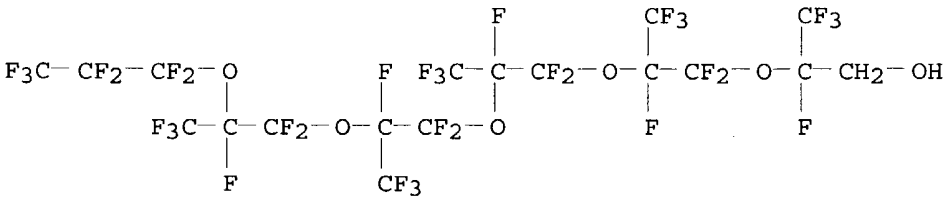
B=H or a radical OR.sub.3 --

R.sub.3 =H or an alkyl C.sub.1 -C.sub.3.

IT 27617-34-1
(etherification of, by methylenedioxybenzyl chloride)

RN 27617-34-1 USPATFULL

CN 3,6,9,12,15-Pentaoxaoctadecan-1-ol, 2,4,4,5,7,7,8,10,10,11,13,13,14,16,16,17,17,18,18,18-eicosafluoro-2,5,8,11,14-pentakis(trifluoromethyl)- (8CI, 9CI) (CA INDEX NAME)



L21 ANSWER 44 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1986:592200 CAPLUS

DN 105:192200

TI Fluorine-containing polymers with oxyen permeability for medical use

IN Yamauchi, Koichi; Inoue, Yoshihisa; Yokoyama, Kazumasa

PA Green Cross Corp., Japan

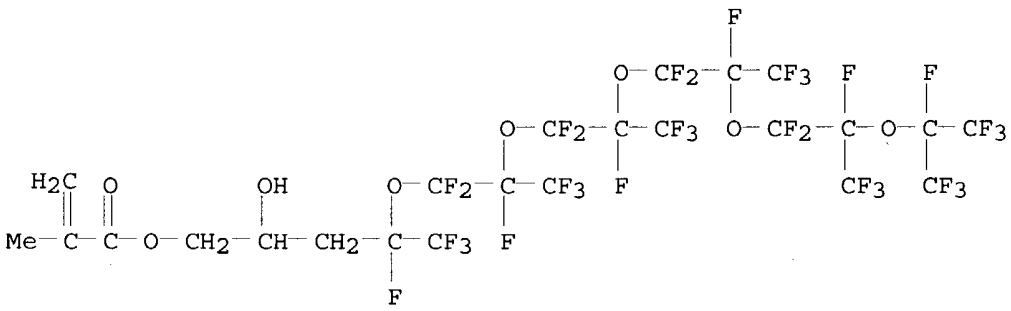
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 61111308	A2	19860529	JP 1984-233449	19841106
JP 05061283	B4	19930906		
PRAI JP 1984-233449		19841106		

AB The title polymers, useful for hard contact lenses, were prepared from Y(CFXCF2O)mCFX'CH2CH(OH)CH2(OCH2CH2)nO2CCMe:CH2 (X, X' = F, lower perfluoroalkyl; Y = F, lower perfluoroalkoxy; m = 1-8; n = 0, 1) and have number-average mol. weight 700-20,000. Thus, (CF3)2CFO[CF(CF3)CF2O]4CF(CF3)Q (Q = glycidyl) was copolymd. with trifluoroethyl methacrylate 0.50, vinylpyrrolidone 0.50, Me methacrylate 1.00, benzyl methacrylate 0.80, and allyl methacrylate 0.20 g in the presence of AIBN at 50° for 48 h, at 70° for 5 h, nd then at 90° for 3 h to obtain a button which was then dried at 110° for 2 days in vacuo to give Vicat hardness 11 and O permeation 21 + 10-11 cm3-cm/cm2-s-mm Hg.

IT 104937-28-2P
RL: IMF (Industrial manufacture); PREP (Preparation)
(manufacture and polymerization of)

RN 104937-28-2 CAPLUS
CN 2-Propenoic acid, 2-methyl-, 4,6,6,7,9,9,10,12,12,13,15,15,16,18,19,19,19-heptadecafluoro-2-hydroxy-4,7,10,13,16,18-hexakis(trifluoromethyl)-5,8,11,14,17-pentaoxanonadec-1-yl ester (9CI) (CA INDEX NAME)



L21 ANSWER 48 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1986:186986 CAPLUS
DN 104:186986
TI Fluoropolyether compounds
IN Caporiccio, Gerardo; Strepparola, Ezio; Scarati, Mario Alberto
PA Montedison S.p.A., Italy
SO Eur. Pat. Appl., 23 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI EP 165650	A2	19851227	EP 1985-300785	19850206
EP 165650	A3	19860219		
EP 165650	B1	19890517		
R: BE, DE, FR, GB, NL, SE				
ES 539134	A1	19870501	ES 1984-539134	19841228

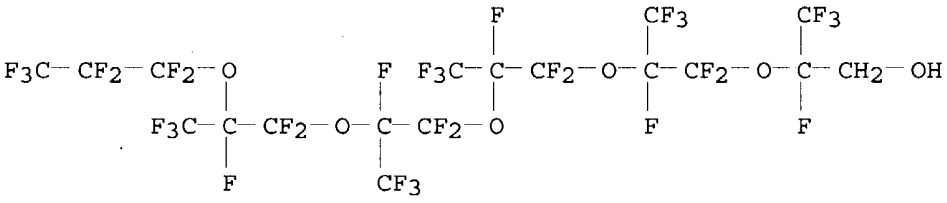
	US 4721795	A	19880126	US 1984-687844	19841231
	CA 1287637	A1	19910813	CA 1985-471406	19850103
	JP 61004727	A2	19860110	JP 1985-3443	19850114
	JP 06010257	B4	19940209		
	AU 8537757	A1	19860102	AU 1985-37757	19850117
	AU 581640	B2	19890302		
PRAI	IT 1984-21481		19840619		

AB Fluoro polyether compds. RO(C3F6O)m(CFXO)nCFXAY or R1CFXO(C3F6O)x(CFXO)y(C2F4O)zCFXAY (R = CF3, C2F5, C3F7; X = F, CF3; R1 = F, CF3, C2F5; A = CH2O, CH2OCH2, CF2, CF2O; Y = dialkoxyphenyl, 1,2-methylenedioxyphenyl, etc.) are prepared for use as lubricants or protective coatings for audio or video tapes, floppy disks, etc. Thus, compound I was prepared from HOCH2CF2O(C2F4Om(CF2O)pCF2CH2OH (m + p = 25, m/p = 0.6, mol. weight = 2300) 75, tert-BuOK 8, and 4-chloromethyl-1,2-methylenedioxybenzene 13 g. A 1% solution of I in Cl2CFCF2Cl was coated on a magnetic tape with CrO2 pigment. The coating survived 8000 passages of a steel ball (diameter 0.32 mm) with 28 g load in an abrasion test, vs. 350 for a nonlubricated tape.

IT 27617-34-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(etherification of, by methylenedioxybenzyl chloride)

RN 27617-34-1 CAPLUS

CN 3,6,9,12,15-Pentaoxaoctadecan-1-ol, 2,4,4,5,7,7,8,10,10,11,13,13,14,16,16,17,17,18,18,18-eicosafluoro-2,5,8,11,14-pentakis(trifluoromethyl)- (8CI, 9CI) (CA INDEX NAME)



L21 ANSWER 49 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1984:474770 CAPLUS

DN 101:74770

TI Surface active substances containing an oligo(hexafluoropropene oxide) chain as a hydrophobic oleophobic moiety

AU Ishikawa, Nobuo; Sasabe, Mikio

CS Dep. Chem. Technol., Tokyo Inst. Technol., Tokyo, 152, Japan

SO Journal of Fluorine Chemistry (1984), 25(2), 241-53
CODEN: JFLCAR; ISSN: 0022-1139

DT Journal

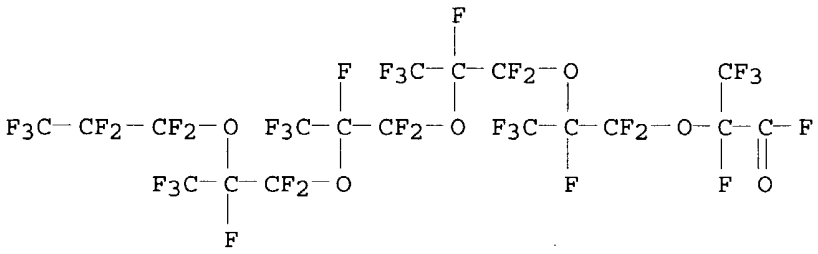
LA English

AB Oil-soluble surfactants CF3CF2CF2O[CF(CF3)CF2O]n-2CF(CF3)COR (I) (R = Ph or p-tolyl, n = 2-6) were prepared by acylating arenes with hexafluoropropylene oxide oligomers. These surfactants (0.2-0.5%) decreased the surface tensions of toluene and m-xylene to 12-14 dynes/cm. Water-soluble surfactants I [R = m-(NaO3S)C6H4 or 4-Me-3-(NaO3S)C6H3, n = 2-6] were also prepared Some of the surfactants (i.e., n = 4-6) decreased the surface tension of water to 16 dynes/cm at a concentration of 10-4-10-5M.

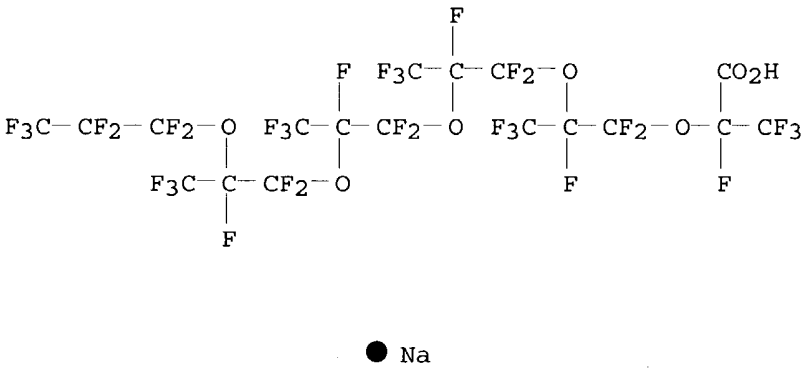
IT 13252-15-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(acylation by, of arenes)

RN 13252-15-8 CAPLUS

CN 3,6,9,12,15-Pentaoxaoctadecanoyl fluoride, 2,4,4,5,7,7,8,10,10,11,13,13,14,16,16,17,17,18,18,18-eicosafluoro-2,5,8,11,14-pentakis(trifluoromethyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)



L21 ANSWER 52 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1983:145452 CAPLUS
DN 98:145452
TI Synthesis of fluorinated surfactants containing hexafluoropropene oxide as a hydrophobic group and properties of the solutions
AU Ogino, Keizo; Murakami, Hiroki; Ishikawa, Nobuo; Sasabe, Mikio
CS Fac. Sci. Technol., Sci. Univ. Tokyo, Noda, Japan
SO Yukagaku (1983), 32(2), 96-101
CODEN: YKGKAM; ISSN: 0513-398X
DT Journal
LA Japanese
AB The surfactants C3F7O[CF(CF3)CF2O]n-2CF(CF3)CO2Na (I) (n = 2-6) were prepared The critical micelle concentration decreases with increasing n. A secondary critical micelle concentration is observed for I (n = 4-6). The Krafft points of I are <0°. I (n = 4) [67963-78-4] has the best foaming properties. I are stable in acidic and alkaline solns.
IT 85248-41-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and surfactant properties of)
RN 85248-41-5 CAPLUS
CN 3,6,9,12,15-Pentaoxaoctadecanoic acid, 2,4,4,5,7,7,8,10,10,11,13,13,14,16,16,17,17,18,18,18-eicosafluoro-2,5,8,11,14-pentakis(trifluoromethyl)-, sodium salt (9CI) (CA INDEX NAME)

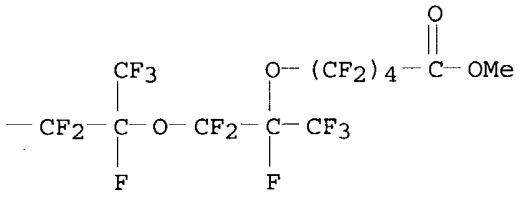


● Na

L21 ANSWER 63 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1978:508039 CAPLUS
DN 89:108039
TI Synthesis of perfluoro(polyether) difunctional compounds
AU Soloski, E. J.; Tamborski, C.; Psarras, T.

CS Air Force Mater. Lab., Wright-Patterson AFB, OH, USA
SO Journal of Fluorine Chemistry (1978), 11(6), 601-12
CODEN: JFLCAR; ISSN: 0022-1139
DT Journal
LA English
AB ω-Iodoperfluoro(polyether) esters IRfOQfCO2R (I; Rf = perfluoroalkylene, Qf = perfluoroalkylene moiety containing O atoms in chain, R = Me or Et) were prepared by 2 procedures. I reacted via Zn coupling reactions to give α,ω-perfluoro(polyether) diesters. The diesters serve as convenient starting materials for the preparation of a variety of other difunctional compds. of high mol. weight and exhibiting a variation of O-C ratio.
IT 61210-96-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and amidation of)
RN 61210-96-6 CAPLUS
CN 6,9,12,15,20,23,26,29-Octaoxatetratriacontanedioic acid, 2,2,3,3,4,4,5,5,7,8,8,10,11,11,13,14,14,16,16,17,17,18,18,19,19,21,21,22,24,24,25,27,27,28,30,30,31,31,32,32,33,33-dotetracontafluoro-7,10,13,22,25,28-hexakis(trifluoromethyl)-, dimethyl ester (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***



L21 ANSWER 67 OF 108 USPATFULL on STN
AN 77:11582 USPATFULL
TI Fluoroalkyleneether difunctional compounds
IN Tamborski, Christ, Dayton, OH, United States
PA The United States of America as represented by the Secretary of the Air Force, Washington, DC, United States (U.S. government)
PI US 4011255 19770308
AI US 1975-610520 19750904 (5)
DT Utility
FS Granted
EXNAM Primary Examiner: Brust, Joseph Paul
LREP Rusz, Joseph E., Kuhn, Cedric H.
CLMN Number of Claims: 3
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 304
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Omega-carbomethoxyperfluoroalkylene ether iodides are reacted with metallic zinc to yield alpha-omega perfluoroalkyleneether diesters. The diesters are reacted with ammonia to form diamides, the diamides are reacted with phosphorus pentoxide to form dinitriles, and the dinitriles are esterfied with methanol to form diimidate esters. The diimidate esters are particularly useful as monomers in synthesizing

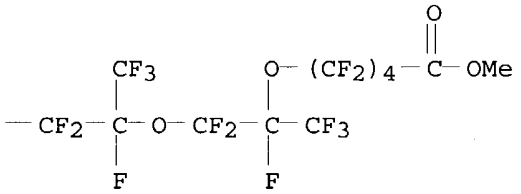
perfluoroalkylene ether bibenzoxazole polymers possessing thermooxidative stability and outstanding low temperature viscoelastic properties.

IT 61210-96-6P
(preparation and amidation of)

RN 61210-96-6 USPATFULL

CN 6,9,12,15,20,23,26,29-Octaoxatetratriacontanedioic acid, 2,2,3,3,4,4,5,5,7,8,8,10,11,11,13,14,14,16,16,17,17,18,18,19,19,21,21,22,24,24,25,27,27,28,30,30,31,31,32,32,33,33-dotetracontafluoro-7,10,13,22,25,28-hexakis(trifluoromethyl)-, dimethyl ester (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***



L21 ANSWER 74 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1976:463699 CAPLUS

DN 85:63699

TI Perfluorinated ethers

IN Von Halasz, Sigmar P.; Kluge, Friedhelm

PA Hoechst A.-G., Fed. Rep. Ger.

SO Ger. Offen., 24 pp.
CODEN: GWXXBX

DT Patent

LA German

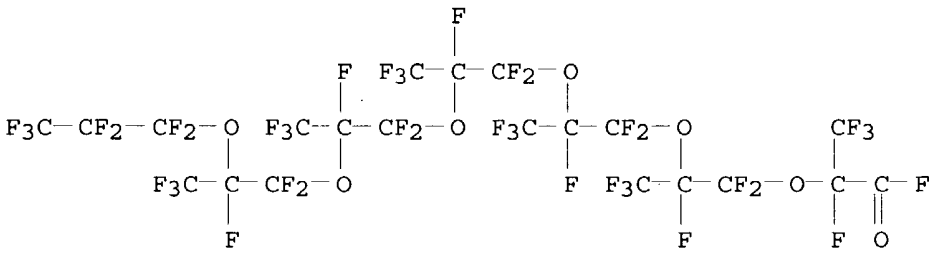
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2451493	A1	19760506	DE 1974-2451493	19741030
	DE 2451493	C2	19820624		
	NL 7512495	A	19760504	NL 1975-12495	19751024
	US 3985810	A	19761012	US 1975-626349	19751028
	GB 1484823	A	19770908	GB 1975-44343	19751028
	CA 1060482	A1	19790814	CA 1975-238542	19751029
	FR 2289477	A1	19760528	FR 1975-33188	19751030
	FR 2289477	B1	19790105		
PRAI	DE 1974-2451493		19741030		

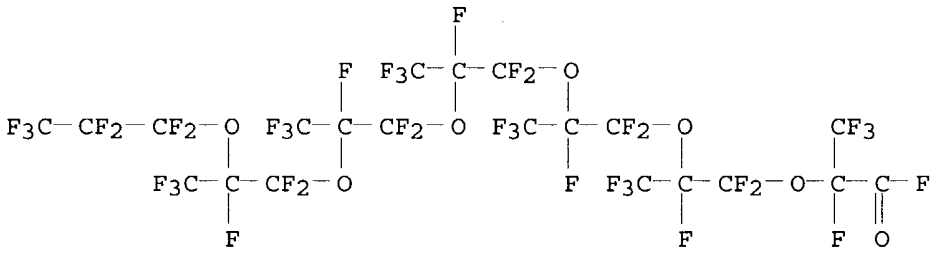
AB The polyethers Rf[[OCF(R)CF2]xOCF2R]n (I) (R = F, CF3; Rf = perfluoroalkyl or perfluoroalkylene; n = 1-2; x = 0-50), useful as hydraulic fluids, heat transfer media, lubricants, etc., are prepared by reaction of F with Rf[[OCF(R)CF2]xOCF(R)COF]n (II) in the presence of metal catalysts at 50-350°. Thus, adding 439.5 g II (R = CF3, Rf = CF(CF3)CF(CF3), n = 2, x = 6.5-9.5) [59859-32-4] over 19.5 hr to a Cu tube packed with silvered Cu filings with countercurrent addition of 0.8 l./hr 3:1 F-He at 200-5° gives 405 g I (R = CF3, Rf = CF(CF3)CF(CF3), n = 2, x = 13.5-19.5) [59859-33-5], b0.4-0.5 185-280°.

IT 13140-24-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(fluorination of, to perfluoroalkyl ethers)

RN 13140-24-4 CAPLUS
CN 3,6,9,12,15,18-Hexaoxaheneicosanoyl fluoride, 2,4,4,5,7,7,8,10,10,11,13,13,14,16,16,17,19,19,20,20,21,21,21-tricosafluoro-2,5,8,11,14,17-hexakis(trifluoromethyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)



L21 ANSWER 75 OF 108 USPATFULL on STN
AN 76:55823 USPATFULL
TI Process for preparing perfluorinated ethers
IN von Halasz, Sigmar-Peter, Kelkheim, Taunus, Germany, Federal Republic of
Kluge, Friedhelm, Frankfurt am Main, Germany, Federal Republic of
PA Hoechst Aktiengesellschaft, Frankfurt am Main, Germany, Federal Republic of (non-U.S. corporation)
PI US 3985810 19761012
AI US 1975-626349 19751028 (5)
PRAI DE 1974-2451493 19741030
DT Utility
FS Granted
EXNAM Primary Examiner: Mars, Howard T.
LREP Curtis, Morris & Safford
CLMN Number of Claims: 10
ECL Exemplary Claim: 1
DRWN 1 Drawing Figure(s); 1 Drawing Page(s)
LN.CNT 600
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Perfluorinated ethers containing carboxylic acid fluoride groups and optionally units derived from hexafluoropropene epoxide or tetrafluoroethylene epoxide are reacted with fluorine at temperatures of from 50° to 350°C in the presence of metallic catalysts. During the reaction carbonyl difluoride is splitt off and an ether is obtained in high yield which is free of carboxylic acid fluoride groups. Metallic silver is well suited as catalyst.
IT 13140-24-4
(fluorination of, to perfluoroalkyl ethers)
RN 13140-24-4 USPATFULL
CN 3,6,9,12,15,18-Hexaoxaheneicosanoyl fluoride, 2,4,4,5,7,7,8,10,10,11,13,13,14,16,16,17,19,19,20,20,21,21,21-tricosafluoro-2,5,8,11,14,17-hexakis(trifluoromethyl)- (7CI, 8CI, 9CI) (CA INDEX NAME)



L21 ANSWER 81 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1977:4951 CAPLUS
DN 86:4951
TI Fluoroalkylene ether difunctional compounds
IN Tamborski, Christ
PA United States Dept. of the Air Force, USA
SO U. S. Pat. Appl., 14 pp. Avail. NTIS.
CODEN: XAXXAV
DT Patent
LA English
FAN.CNT 1

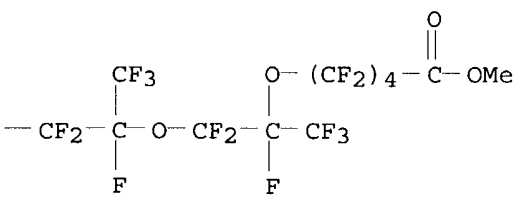
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 610520	A0	19750904	US 1975-610520	19750904
PRAI US 1975-610520		19750904		

AB MeOC(:NH)(CF2)4O(CF2)4O(CF2)4C(:NH)OMe, a monomer for preparation of elastomeric thermally stable polymers, was prepared by treating ICF2CF2O(CF2)4CO2Et (I) with Zn to give EtO2C(CF2)4O(CF2)4O(CF2)4CO2Et, treatment of the diester with NH3 to give the diamide, dehydration of the diamide with P2O5 to give the dinitrile, and treatment of the latter with Na-MeOH to give the diimidate. MeO2C(CF2)4O[CF(CF3)CF2O]nCF2CF2I (n = 2, 3) and MeO2CCF(CF3)OCF2CF2OCF(CF3)CF2OCF2CF2I were also used in place of I.

IT 61210-96-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and amidation of)

RN 61210-96-6 CAPLUS
CN 6,9,12,15,20,23,26,29-Octaoxatetratriacontanedioic acid, 2,2,3,3,4,4,5,5,7,8,8,10,11,11,13,14,14,16,16,17,17,18,18,19,19,21,21,22,24,24,25,27,27,28,30,30,31,31,32,32,33,33-dotetracontafluoro-7,10,13,22,25,28-hexakis(trifluoromethyl)-, dimethyl ester (9CI) (CA INDEX NAME)

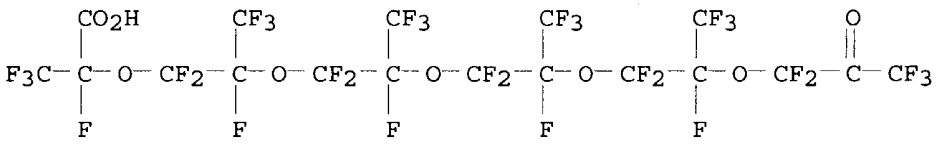
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***



L21 ANSWER 88 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1975:594115 CAPLUS
DN 83:194115
TI Perfluorinated linear polyethers having reactive terminal groups at both ends of the chain
IN Sianesi, Dario; Caporiccio, Gerardo; Mensi, Domenico
PA Montedison S.p.A., Italy
SO U.S., 14 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 3847978	A	19741112	US 1969-834486	19690618
PRAI US 1968-787309		19681226		

AB Perfluorinated linear polyethers containing peroxidic linkages were chain-cleaved by reducing agents to give bifunctional perfluorinated linear oligopolyethers with chemical-reactive terminal groups. Thus, hexafluoropropene [116-15-4] was treated with oxygen under the influence of uv light to give a peroxidized poly(perfluoropropylene oxide) [25038-02-2] which was reduced by H over a Pd catalyst to give a series of carboxy- and trifluoroacetyl-terminated oligopolyethers. One of these, CF3COCF2O(C3F6O)2CF(CF3)CO2H [42775-40-6], boiling point 210-2°, formed a polymer with hexamethylenediamine [55809-69-3].
IT 42775-42-8P
RL: IMF (Industrial manufacture); PREP (Preparation)
(manufacture of, by reduction of perfluorinated polyether peroxy derivs.)
RN 42775-42-8 CAPLUS
CN 3,6,9,12,15-Pentaoxaoctadecanoic acid, 2,4,4,5,7,7,8,10,10,11,13,13,14,16,16,18,18,18-octadecafluoro-17-oxo-2,5,8,11,14-pentakis(trifluoromethyl)- (9CI) (CA INDEX NAME)



L21 ANSWER 89 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1975:88056 CAPLUS
DN 82:88056
TI Perfluoroalkyletheramidoalkyl betaines and sulfobetaines
IN Barlett, Phillip Lee
PA du Pont de Nemours, E. I., and Co.
SO U.S., 4 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 3839425	A	19741001	US 1970-72803	19700916
PRAI US 1970-72803		19700916		

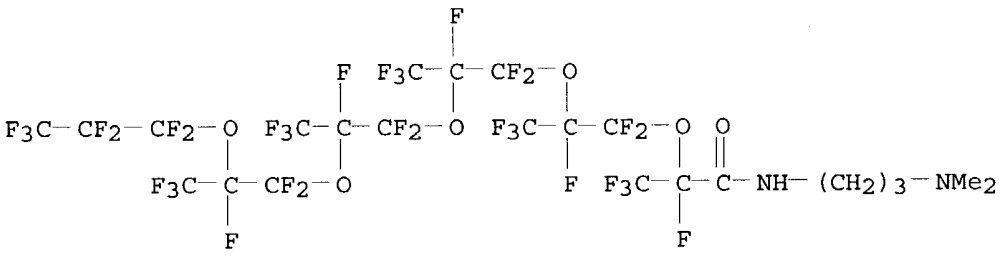
AB Thirteen surfactants [C3F7O[CF(CF3)CF2O]nCF(CF3)CONR(CH2)mN+(R1)2R2 with R = H, Me, or Et, R1 = Me, Et, or Pr, R2 = (CH2)1-2CO2- or (CH)2-3SO3-, m = 2-3, and n = 0-4] were prepared and were especially useful as foam stabilizers for

fire-extinguishing foams on burning hydrocarbon surfaces. Thus, 50 g C3F7OCF(CF3)CF2OCF(CF3)CONH(CH2)3NMe2 [31339-59-0], 10.1 g ClCH2CO2Na [3926-62-3], and 20 ml iso-PrOH were refluxed for 16 hr to prepare 53.7 g C3F7OCF(CF3)CF2OCF(CF3)CONH(CH2)3N+Me2CH2CO2- [54190-98-6] which gave surface tension 18.7 dynes/cm as a 0.001% aqueous solution and, as a 1% solution,
caused water to spread rapidly over the surface of cyclohexane.

IT 54190-86-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with carboxyalkyl and sulfoalkyl halides)

RN 54190-86-2 CAPLUS

CN 3,6,9,12,15-Pentaoxaoctadecanamide, N-[3-(dimethylamino)propyl]-2,4,4,5,7,7,8,10,10,11,13,13,14,16,16,17,17,18,18,18-eicosafluoro-2,5,8,11,14-pentakis(trifluoromethyl)- (9CI) (CA INDEX NAME)



L21 ANSWER 100 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1972:16000 CAPLUS

DN 76:16000

TI Perfluoroalkyl ether amidoamine oxides

IN Bartlett, Philip L.

PA du Pont de Nemours, E. I., and Co.

SO U.S., 6 pp.
CODEN: USXXAM

DT Patent

LA English

FAN.CNT 3

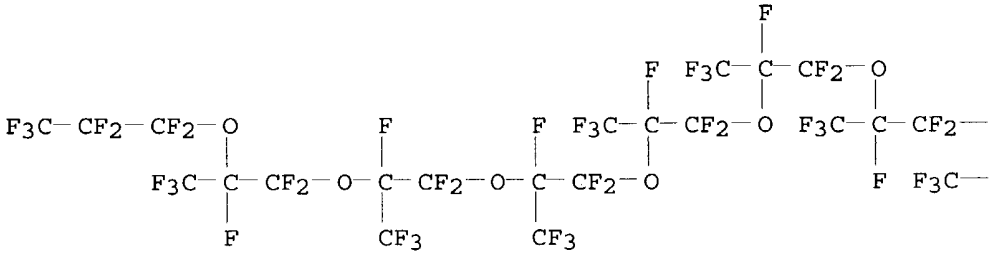
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3547995	A	19701215	US 1968-705932	19680216
	NL 6803275	A	19680909	NL 1968-3275	19680307
	FR 1568163	A	19690523	FR 1968-1568163	19680307
	GB 1202830	A	19700819	GB 1968-1202830	19680307
	DE 1793761	A1	19730823	DE 1967-1793761	19680307
PRAI	US 1967-621128		19670307		
	US 1967-621148		19670307		
	US 1967-621157		19670307		
	US 1968-705923		19680216		
	US 1968-705932		19680216		
	US 1968-705947		19680216		

AB A group of perfluoroalkyl ether amidoamine oxides are useful as surface active agents and are noncorrosive to steel. Hexafluoropropylene oxide is trimerized to perfluoroalkyl ether acid fluoride which is esterified with methanol and reacted with 3-(dimethylamino)propylamine to give a corresponding perfluoro alkyl ether amide which was oxidized to [3-[2-[2-(heptafluoropropoxy)hexafluoropropoxy]tetrafluoropropionamido]propyl]dimethylamine oxide [29209-86-7].

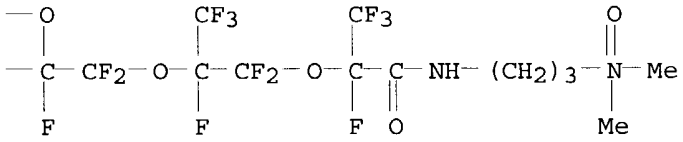
IT 34839-72-0
RL: TEM (Technical or engineered material use); USES (Uses)
(surfactants)

RN 34839-72-0 CAPLUS
CN 3,6,9,12,15,18,21,24-Octaoxatriacontanamide, N-[3-(dimethyloxidoamino)propyl]-2,4,4,5,7,7,8,10,10,11,13,13,14,16,16,17,19,19,20,22,22,23,25,25,26,28,28,29,29,30,30-dotriacontafluoro-2,5,8,11,14,17,20,23,26-nonakis(trifluoromethyl)- (9CI) (CA INDEX NAME)

PAGE 1-A

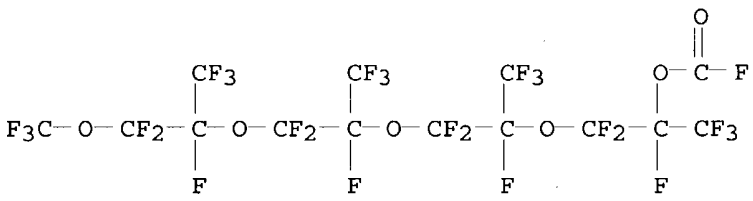


PAGE 1-B



L21 ANSWER 106 OF 108 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1968:77639 CAPLUS
DN 68:77639
TI Perfluorinated polyethers. Synthesis and characterization of a new class of inert fluids
AU Sianesi, Dario
CS "Montecatini Edison", Ist. "G. Donegani", Milan-Linate, Italy
SO Chimica e l'Industria (Milan, Italy) (1968), 50(2), 206-14
CODEN: CINMAB; ISSN: 0009-4315
DT Journal
LA Italian
AB The photochem. reaction between hexafluoropropylene and O was studied. Compds. of the general formulas CF3(OR)nO[CF2CF(CF3)]mCOF (I), CF3(OR)nO[CF2CF(CF3)O]mCF2COCF3 (II), and CF3(ORnO[CF2CF(CF3)O]mCF2H (III) are obtained. The following I (n, R, m, and b.p. given): 0, -, 0, -; 0, -, 1, 51°; 0, -, 2, 114°; 0, -, 3, 156-7°; 0, -, 4, 195-7°; 1, CF2, 1, 83-6°; 1, CF2, 2, 130-3°; 1, CF(CF2), 1, 96-8°; 1, CF(CF3), 2, 143-5°; the following II (n, R, m, and b.p. given): 0, -, 0, 15°; 0, -, 1, 87°; 0, -, 2, 137°; 0, -, 3, 180-1°; 0, -, 4, 215-16°; 0, -, 5, 244-5°; 1, CF2, 0, 48-9°; 1, CF2, 1, 106-7°; 1, CF2, 2, 157-60°; 1, CF2, 3, 197-200°; 1, CF(CF3), 0, 68°; 1, CF(CF3), 1, 121-2°; 1, CF(CF3), 2, 168-70°; 1, CF(CF3), 3, 205-7°; and the following III (n, R, m, and b.p. given): 1, -, 0, -36°; 0, -, 1, 55°; 0, -, 2, 113°; 0, -, 3, 161-2°; 0, -, 4, 200-1°; 0, -, 5, 231-2°; 1, CF2, 1, 88-90°; 1, CF2, 2, 133-4°; 1, CF2, 3, 175-8°; 1, CF(CF3), 1, 100-1°; 1, CF(CF3), 2, 147-8°; 1, CF(CF3), 3, 189-92°, are prepared

IT 18934-94-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 18934-94-6 CAPLUS
CN Formic acid, fluoro-, trifluoro-2-[trifluoro-1-(trifluoromethyl)-2-[trifluoro-1-(trifluoromethyl)-2-[trifluoro-2-(trifluoromethoxy)-1-(trifluoromethyl)ethoxy]ethoxy]ethoxy]-1-(trifluoromethyl)ethyl ester (8CI) (CA INDEX NAME)



=> file stnguide

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	152.55	469.93

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-9.10	-9.10

FILE 'STNGUIDE' ENTERED AT 07:28:50 ON 10 NOV 2004
USE IS SUBJECT TO THE TERMS OF YOUR CUSTOMER AGREEMENT
COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY, JAPAN SCIENCE AND TECHNOLOGY CORPORATION, AND FACHINFORMATIONSZENTRUM KARLSRUHE

FILE CONTAINS CURRENT INFORMATION.
LAST RELOADED: Nov 5, 2004 (20041105/UP).

=> file reg

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.18	470.11

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-9.10

FILE 'REGISTRY' ENTERED AT 07:30:31 ON 10 NOV 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2004 American Chemical Society (ACS)

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 8 NOV 2004 HIGHEST RN 777024-10-9
DICTIONARY FILE UPDATES: 8 NOV 2004 HIGHEST RN 777024-10-9

TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

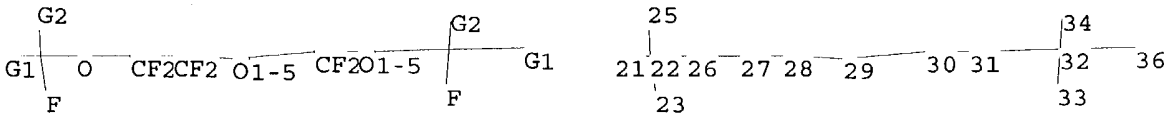
=> ....Testing the current file.... screen

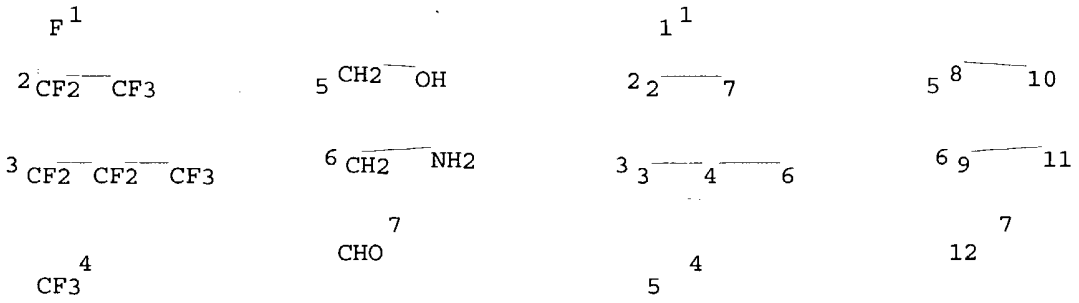
ENTER SCREEN EXPRESSION OR (END):end

=> screen 1994 OR 2016 OR 2021 OR 2026 OR 1838

L22 SCREEN CREATED

=>
Uploading C:\Program Files\Stnexp\Queries\10630698b-1.str





chain nodes :
1 2 3 4 5 6 7 8 9 10 11 12 21 22 23 25 26 27 28 29 30 31 32 33 34 36
chain bonds :
2-7 3-4 4-6 8-10 9-11 21-22 22-23 22-25 22-26 26-27 27-28 28-29 29-30 30-31 31-32 32-36 32-33 32-34
exact/norm bonds :

21-22 22-25 22-26 31-32 32-36 32-34
exact bonds :
2-7 3-4 4-6 8-10 9-11 22-23 26-27 27-28 28-29 29-30 30-31 32-33

G1:[*1],[*2],[*3],[*4],[*5],[*6],[*7]

G2:[*1],[*2]

Match level :
1:CLASS 2:CLASS 3:CLASS 4:CLASS 5:CLASS 6:CLASS 7:CLASS 8:CLASS 9:CLASS
10:CLASS 11:CLASS 12:CLASS 21:CLASS 22:CLASS 23:CLASS 25:CLASS 26:CLASS
27:CLASS 28:CLASS 29:CLASS 30:CLASS 31:CLASS 32:CLASS 33:CLASS 34:CLASS
36:CLASS

L23 STRUCTURE UPLOADED

=> que L23 NOT L22

L24 QUE L23 NOT L22

=> s l24
SAMPLE SEARCH INITIATED 07:31:27 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 265 TO ITERATE

100.0% PROCESSED 265 ITERATIONS (4 INCOMPLETE) 6 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 4324 TO 6276
PROJECTED ANSWERS: 6 TO 266

L25 6 SEA SSS SAM L23 NOT L22

=> s l24 ful
FULL SEARCH INITIATED 07:31:35 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 4703 TO ITERATE

100.0% PROCESSED 4703 ITERATIONS (70 INCOMPLETE) 81 ANSWERS
SEARCH TIME: 00.00.03

L26 81 SEA SSS FUL L23 NOT L22

=> file caplus casreact uspatful

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	156.26	626.37

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-9.10

FILE 'CAPLUS' ENTERED AT 07:32:23 ON 10 NOV 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

FILE 'CASREACT' ENTERED AT 07:32:23 ON 10 NOV 2004

10/631,862 .

USE IS SUBJECT TO THE TERMS OF YOUR CUSTOMER AGREEMENT
COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'USPATFULL' ENTERED AT 07:32:23 ON 10 NOV 2004
CA INDEXING COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

=> s l26
L27 76 L26

=> dup rem l27
PROCESSING COMPLETED FOR L27
L28 69 DUP REM L27 (7 DUPLICATES REMOVED)

=> d 1-69 ti

L28 ANSWER 1 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN
TI Manufacture of magnetic recording media

L28 ANSWER 2 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN
TI Perfluoropoly-ether/peroxide compounds: spectroscopic studies and quantum chemical calculations

L28 ANSWER 3 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN
TI Fluorine-containing compounds, lubricants and magnetic recording media therewith, and manufacture thereof

L28 ANSWER 4 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN
TI Manufacture of magnetic recording media

L28 ANSWER 5 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN
TI Fluorine-containing tertiary amine tricarboxylate ester, lubricant, magnetic recording medium using the lubricant, and manufacture of the recording medium

L28 ANSWER 6 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN
TI Magnetic recording media having good traveling durability and high electromagnetic conversion and their manufacture

L28 ANSWER 7 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN
TI Perfluoroalkyl polyether oligomers containing phosphazene groups useful as lubricants for recording media such as hard disks

L28 ANSWER 8 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN
TI Magnetic recording medium and its fabrication

L28 ANSWER 9 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN
TI Thin magnetic tapes with good durability having stainless reinforcing layers on their back side and their manufacture

L28 ANSWER 10 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN
TI Magnetic tapes with fluorine-containing lubricant layers and their manufacture

L28 ANSWER 11 OF 69 USPATFULL on STN
TI Rolling bearing

L28 ANSWER 12 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN
TI (Fluoroorgano)silicon compounds as hydro- and oleophobic agents for protection of building materials from adverse effects of environment

L28 ANSWER 13 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN
TI Lubricating grease for sliding bearings

L28 ANSWER 14 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN
TI Monoesters of fluorinated alkyldicarboxylic acids, lubricant compositions, magnetic recording media, and their manufacture

L28 ANSWER 15 OF 69 USPATFULL on STN
TI Magnetic recording medium having a perfluoropolyether lubricant bonded to the surface of a carbon protective film

L28 ANSWER 16 OF 69 USPATFULL on STN
TI Liquid-phase fluorination

L28 ANSWER 17 OF 69 USPATFULL on STN
TI Liquid-phase fluorination

L28 ANSWER 18 OF 69 USPATFULL on STN
TI Amides and esters of perfluoropolyoxaalkylene-sulfo- or perfluoropolyoxaalkylene-carboxylic acids and a process for producing same

L28 ANSWER 19 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 1
TI Method of manufacturing a magnetic storage medium

L28 ANSWER 20 OF 69 USPATFULL on STN
TI Liquid phase fluorination

L28 ANSWER 21 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN
TI Synthesis of 1,1-dihydroperfluorooxaalkan-1-ols and their reaction with terephthaloyl chloride

L28 ANSWER 22 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN
TI The solid-like state of a confined liquid lubricant: deformation and time effects

L28 ANSWER 23 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN
TI The effect of adhesion on the rheological and frictional behavior of a confined lubricant film

L28 ANSWER 24 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN
TI Manufacture of amides and esters of perfluoropolyoxyalkylenesulfonic or -carboxylic acids

L28 ANSWER 25 OF 69 USPATFULL on STN
TI Liquid phase fluorination

L28 ANSWER 26 OF 69 USPATFULL on STN
TI Curing fluorocarbon elastomers

L28 ANSWER 27 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN
TI Cocyclotrimerization of mono- and dinitriles of perfluorocarboxylic acids under high pressure

L28 ANSWER 28 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN
TI Development of quantitative structure-activity relationships for perfluoropolyalkyl ethers

L28 ANSWER 29 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 2
TI Liquid-phase fluorination

L28 ANSWER 30 OF 69 USPATFULL on STN
TI Liquid-phase fluorination

L28 ANSWER 31 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 3
TI Features of cyclotrimerization of perfluoroalkyl- and perfluorooxaalkylacetylenes

L28 ANSWER 32 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN
TI From static to kinetic friction in confined liquid films

L28 ANSWER 33 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN
TI New fluorinated oligomers and polymers based on (perfluoroalkyl)- and (perfluorooxyalkylene)acetylenes

L28 ANSWER 34 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN
TI Lubricants for magnetic recording medium

L28 ANSWER 35 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN
TI Curable fluororubber compositions containing fluorinated polyethers

L28 ANSWER 36 OF 69 USPATFULL on STN
TI Perfluorinated polyethers and process for their preparation

L28 ANSWER 37 OF 69 USPATFULL on STN
TI Liquid phase fluorination

L28 ANSWER 38 OF 69 USPATFULL on STN
TI Novel perfluorinated polyethers and process for their preparation

L28 ANSWER 39 OF 69 USPATFULL on STN
TI Novel perfluorinated polyethers and process for their preparation

L28 ANSWER 40 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN
TI Colloid chemical properties of aqueous solutions of derivatives of perfluorooxaalkylcarboxylic acids based on oligomers of tetrafluoroethylene oxide

L28 ANSWER 41 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN
TI Perfluoro tertiary alcohols. I. Synthesis of high molecular weight perfluorinated monoketones and tertiary alcohols

L28 ANSWER 42 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN
TI Preparation of perfluoroacetal and perfluoroketal compounds and use thereof in thermal shock testing

L28 ANSWER 43 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN
TI Perfluorination of hydrogen-containing compounds

L28 ANSWER 44 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN
TI Perfluorination of alcohol ethoxylates

L28 ANSWER 45 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 4
TI Preparation of carbonyl fluoride compounds

L28 ANSWER 46 OF 69 USPATFULL on STN
TI Perfluoro-keto-ylids as precursors of polychloroketones, 1,2-diketones and quinoxalines

L28 ANSWER 47 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 5
TI Fluoroacrylate polymers and copolymers for manufacture of contact lenses.

L28 ANSWER 48 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN
TI Lubricating oils for refrigerating compressors

L28 ANSWER 49 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN

TI Manufacture of magnetic memory disks

L28 ANSWER 50 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN
TI Optical pickup activator

L28 ANSWER 51 OF 69 USPATFULL on STN
TI Perfluoro-keto-ylids as precursors of polychloroketones, 1,2-diketones and quinoxalines

L28 ANSWER 52 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 6
TI Perfluoro-keto-ylids as precursors of polychloroketones, 1,2-diketones and quinoxalines

L28 ANSWER 53 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 7
TI Perfluorocarbon ethers from a high-molecular-weight polyether

L28 ANSWER 54 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN
TI Magnetic recording medium having a perfluoropolyether polymer protective coating

L28 ANSWER 55 OF 69 USPATFULL on STN
TI Magnetic recording medium having a perfluoropolyether polymer protective coating

L28 ANSWER 56 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN
TI Fluoroalkylene ether silicate/viton GLT blends: an approach toward improved low temperature flexibility

L28 ANSWER 57 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN
TI Hydrolytically stable fluorocarbon ether bibenzoxazole polymers

L28 ANSWER 58 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN
TI F-Phenylalkylene oxide diacetylenes

L28 ANSWER 59 OF 69 USPATFULL on STN
TI F-Phenylalkylene oxide diacetylenes

L28 ANSWER 60 OF 69 USPATFULL on STN
TI Fluoroalkyleneether silicate copolymers

L28 ANSWER 61 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN
TI Fluoroalkyleneether silicate copolymers

L28 ANSWER 62 OF 69 USPATFULL on STN
TI Hybrid perfluoroalkylene ether thioimidate ester monomers

L28 ANSWER 63 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN
TI Synthesis of the perfluoropoly(ethylene glycol) ethers by direct fluorination

L28 ANSWER 64 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN
TI Hybrid perfluoroalkylene ether thioimidate ester monomers

L28 ANSWER 65 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN
TI Synthesis of perfluoropoly(ethylene glycol) ethers CF3[OCF2CF2]nORf (Rf = CF3 or C2F5; n = 1-5)

L28 ANSWER 66 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN
TI The addition of tetrafluoroethylene oxide to F-glutaryl fluoride. Relative reactivities of acid fluorides

L28 ANSWER 67 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN

TI Nature of the addition of perfluoroolefin oxides to perfluorodicarboxylic acid difluorides

L28 ANSWER 68 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN
TI Oil repellent polyfluoropolyoxo-alkyl phosphates

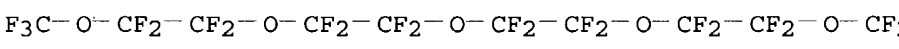
L28 ANSWER 69 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN
TI Fluorocarbon ethers of tetrafluoroethylene epoxide

=> 2,16,17,20,25,29,30,36,37,38,39,44,45,53,65,66,67 bib ab fhitstr
2,16,17,20,25,29,30,36,37,38,39,44,45,53,65,66,67 IS NOT A RECOGNIZED COMMAND
The previous command name entered was not recognized by the system.
For a list of commands available to you in the current file, enter
"HELP COMMANDS" at an arrow prompt (=>).

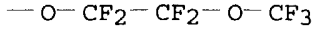
=> d 2,16,17,20,25,29,30,36,37,38,39,44,45,53,65,66,67 bib ab fhitstr

L28 ANSWER 2 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2004:75006 CAPLUS
DN 140:375766
TI Perfluoropoly-ether/peroxide compounds: spectroscopic studies and quantum chemical calculations
AU Radice, S.; Toniolo, P.; Barchiesi, E.; Guarda, P. A.; Tommasini, M.; Castiglioni, C.
CS Solvay Solexis, Bollate (MI), 20021, Italy
SO Journal of Fluorine Chemistry (2004), 125(2), 151-164
CODEN: JFLCAR; ISSN: 0022-1139
PB Elsevier Science B.V.
DT Journal
LA English
AB Perfluoropolyethers (PFPEs) are a class of high performance materials used in a wide range of applications (refrigeration, lubrication, semiconductor industry, etc.). PFPEs containing peroxidic units are intermediate materials for the preparation of com. end products. In this work we study the spectroscopic properties of ether and peroxides linkages in this class of compds.; NMR (NMR) spectra are discussed, FT-Raman data presented. Quantum chemical calcns. on model mols. were used as a tool for the interpretation of the Raman exptl. data and phys.-chemical properties.
IT 67584-24-1
RL: PRP (Properties)
(model compound; spectroscopic studies and quantum chemical calcns. perfluoropolyether/peroxide compds. prepared by oxidative polymerization of tetrafluoroethylene)
RN 67584-24-1 CAPLUS
CN 2,5,8,11,14,17,20-Heptaoxaheneicosane, 1,1,1,3,3,4,4,6,6,7,7,9,9,10,10,12,12,13,13,15,15,16,16,18,18,19,19,21,21,21-triacontafluoro- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L28 ANSWER 16 OF 69 USPATFULL on STN
AN 1998:55015 USPATFULL
TI Liquid-phase fluorination
IN Bierschenk, Thomas R., Round Rock, TX, United States
Juhlke, Timothy J., Round Rock, TX, United States
Kawa, Hajimu, Austin, TX, United States
Lagow, Richard J., Austin, TX, United States
PA Exfluor Research Corporation, Round Rock, TX, United States (U.S. corporation)
PI US 5753776 19980519
AI US 1995-471031 19950606 (8)
RLI Continuation of Ser. No. US 1994-258708, filed on 13 Jun 1994, now patented, Pat. No. US 5461117, issued on 24 Oct 1995 which is a continuation of Ser. No. US 1993-28721, filed on 8 Mar 1993, now patented, Pat. No. US 5322904, issued on 21 Jun 1994 which is a continuation-in-part of Ser. No. US 1992-823837, filed on 17 Jan 1992, now abandoned which is a continuation of Ser. No. US 1989-414119, filed on 28 Sep 1989, now patented, Pat. No. US 5093432, issued on 3 Mar 1992 which is a continuation-in-part of Ser. No. US 1988-250376, filed on 28 Sep 1988, now abandoned
DT Utility
FS Granted
EXNAM Primary Examiner: Krass, Frederick
LREP Hamilton, Brook, Smith & Reynolds, P.C.
CLMN Number of Claims: 35
ECL Exemplary Claim: 1
DRWN 2 Drawing Figure(s); 2 Drawing Page(s)
LN.CNT 2151
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB This invention pertains to a method for liquid phase fluorination for perfluorination of a wide variety of hydrogen-containing compounds.
IT 130085-03-9P
(preparation of)
RN 130085-03-9 USPATFULL
CN 5,8,11,13,16,19-Hexaoxatricosane, 1,1,1,2,2,3,3,4,4,6,6,7,7,9,9,10,10,12,12,14,14,15,15,17,17,18,18,20,20,21,21,22,22,23,23,23-hexatriacontafluoro- (9CI) (CA INDEX NAME)

PAGE 1-A

$F_3C-(CF_2)_3-O-CF_2-CF_2-O-CF_2-CF_2-O-CF_2-O-CF_2-CF_2-O-CF_2-$

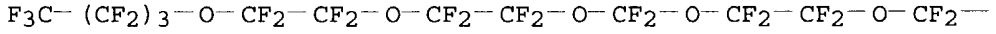
PAGE 1-B

$-CF_2-O-(CF_2)_3-CF_3$

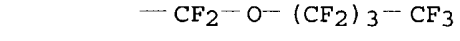
L28 ANSWER 17 OF 69 USPATFULL on STN
AN 97:91604 USPATFULL
TI Liquid-phase fluorination
IN Bierschenk, Thomas R., Round Rock, TX, United States
Juhlke, Timothy, Round Rock, TX, United States
Kawa, Hajimu, Austin, TX, United States
Lagow, Richard J., Austin, TX, United States
PA Exfluor Research Corporation, Round Rock, TX, United States (U.S. corporation)

PI US 5674949 19971007
AI US 1995-466798 19950606 (8)
RLI Continuation of Ser. No. US 1994-240225, filed on 10 May 1994, now patented, Pat. No. US 5571870, issued on 5 Nov 1996 which is a continuation of Ser. No. US 1992-823836, filed on 17 Jan 1992, now patented, Pat. No. US 5322903, issued on 21 Jun 1994 which is a continuation of Ser. No. US 1989-414119, filed on 28 Sep 1989, now patented, Pat. No. US 5093432, issued on 3 Mar 1992 which is a continuation-in-part of Ser. No. US 1988-250376, filed on 28 Sep 1988, now abandoned
DT Utility
FS Granted
EXNAM Primary Examiner: Krass, Frederick
LREP Hamilton, Brook, Smith & Reynolds, P.C.
CLMN Number of Claims: 20
ECL Exemplary Claim: 1
DRWN 2 Drawing Figure(s); 2 Drawing Page(s)
LN.CNT 2088
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB This invention pertains to a method for liquid-phase fluorination for perfluorination of a wide variety of hydrogen-containing compounds.
IT 130085-03-9P
(preparation of)
RN 130085-03-9 USPATFULL
CN 5,8,11,13,16,19-Hexaoxatricosane, 1,1,1,2,2,3,3,4,4,6,6,7,7,9,9,10,10,12,12,14,14,15,15,17,17,18,18,20,20,21,21,22,22,23,23,23-hexatriacontafluoro- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



L28 ANSWER 20 OF 69 USPATFULL on STN
AN 96:101634 USPATFULL
TI Liquid phase fluorination
IN Bierschenk, Thomas R., Round Rock, TX, United States
Juhlke, Timothy, Round Rock, TX, United States
Kawa, Hajimu, Austin, TX, United States
Lagow, Richard J., Austin, TX, United States
PA Exfluor Research Corporation, Round Rock, TX, United States (U.S. corporation)
PI US 5571870 19961105
AI US 1994-240225 19940510 (8)
DCD 20110621
RLI Continuation of Ser. No. US 1992-823836, filed on 17 Jan 1992, now patented, Pat. No. US 5322903, issued on 21 Jun 1994 which is a continuation of Ser. No. US 1989-414119, filed on 28 Sep 1989, now patented, Pat. No. US 5093432, issued on 3 Mar 1992 which is a continuation-in-part of Ser. No. US 1988-250376, filed on 28 Sep 1988, now abandoned
DT Utility
FS Granted
EXNAM Primary Examiner: Krass, Frederick

10/631,862

LREP Hamilton, Brook, Smith & Reynolds, P.C.
CLMN Number of Claims: 28
ECL Exemplary Claim: 1
DRWN 2 Drawing Figure(s); 2 Drawing Page(s)
LN.CNT 2065
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB This invention pertains to a method for liquid phase fluorination for perfluorination of a wide variety of hydrogen-containing compounds.
IT 130085-03-9P
(preparation of)
RN 130085-03-9 USPATFULL
CN 5,8,11,13,16,19-Hexaoxatricosane, 1,1,1,2,2,3,3,4,4,6,6,7,7,9,9,10,10,12,12,14,14,15,15,17,17,18,18,20,20,21,21,22,22,23,23,23-hexatriacontafluoro- (9CI) (CA INDEX NAME)

PAGE 1-A

$F_3C-(CF_2)_3-O-CF_2-CF_2-O-CF_2-CF_2-O-CF_2-O-CF_2-CF_2-O-CF_2-$

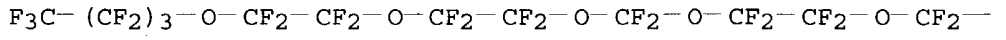
PAGE 1-B

$-CF_2-O-(CF_2)_3-CF_3$

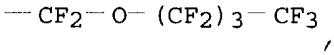
L28 ANSWER 25 OF 69 USPATFULL on STN
AN 95:94983 USPATFULL
TI Liquid phase fluorination
IN Bierschenk, Thomas R., Round Rock, TX, United States
Juhlke, Timothy J., Round Rock, TX, United States
Kawa, Hajimu, Austin, TX, United States
Lagow, Richard J., Austin, TX, United States
PA Exfluor Research Corporation, Austin, TX, United States (U.S. corporation)
PI US 5461117 19951024
AI US 1994-258708 19940613 (8)
RLI Continuation of Ser. No. US 1993-28721, filed on 8 Mar 1993, now patented, Pat. No. US 5322904 which is a continuation-in-part of Ser. No. US 1992-823837, filed on 17 Jan 1992, now abandoned which is a continuation of Ser. No. US 1989-414119, filed on 28 Sep 1989, now patented, Pat. No. US 5094432, issued on 3 Mar 1992 which is a continuation-in-part of Ser. No. US 1988-250376, filed on 28 Sep 1988, now abandoned
DT Utility
FS Granted
EXNAM Primary Examiner: Krass, Frederick
LREP Hamilton, Brook, Smith & Reynolds
CLMN Number of Claims: 30
ECL Exemplary Claim: 1
DRWN 2 Drawing Figure(s); 2 Drawing Page(s)
LN.CNT 2106
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB This invention pertains to a method for liquid phase fluorination for perfluorination of a wide variety of hydrogen-containing compounds.
IT 130085-03-9P
(preparation of)
RN 130085-03-9 USPATFULL
CN 5,8,11,13,16,19-Hexaoxatricosane, 1,1,1,2,2,3,3,4,4,6,6,7,7,9,9,10,10,12,12,14,14,15,15,17,17,18,18,20,20,21,21,22,22,23,23,23-hexatriacontafluoro-

(9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

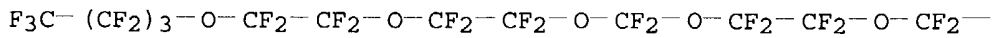


L28 ANSWER 29 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 2
AN 1994:701682 CAPLUS
DN 121:301682
TI Liquid-phase fluorination
IN Bierschenk, Thomas R.; Juhlke, Timothy; Kawa, Hajimu; Lagow, Richard J.
PA Exfluor Research Corp., USA
SO U.S., 24 pp. Cont.-in-part of U.S. Ser. No. 822,637, abandoned.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 3

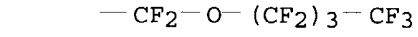
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5332790	A	19940726	US 1993-28682	19930308
	US 5093432	A	19920303	US 1989-414119	19890928
	US 5322903	A	19940621	US 1992-823836	19920117
	US 5571870	A	19961105	US 1994-240225	19940510
	US 5674949	A	19971007	US 1995-466798	19950606
PRAI	US 1988-250376		19880928		
	US 1989-414119		19890928		
	US 1992-822637		19920117		
	US 1992-823836		19920117		
	US 1994-240225		19940510		

AB A method for replacing essentially all H atoms of H-containing compds. with F atoms comprises (a) continuously introducing a H-containing compound into a liquid perfluorocarbon, perhalogenated chlorofluorocarbon or chloro fluoro ether medium while agitating the medium so that the H-containing compound is dissolved or dispersed within the liquid medium; (b) introducing F gas diluted with an inert gas into the liquid medium without illumination with UV light to establish fluorination conditions wherein the liquid medium and F in the vapor space above the liquid medium do not form a flammable mixture; (c) continuing the introduction of F gas diluted with an inert gas until essentially all of the H atoms of the H-containing compound have been replaced with F atoms without substantial oligomerization or polymerization of the H-containing compound Perfluorinated acids (such as C7F15CO2H), perfluorinated polyethylene glycol and polypropylene glycol and their derivs. were prepared
IT 130085-03-9P
RL: IMF (Industrial manufacture); PREP (Preparation)
(liquid-phase perfluorination)
RN 130085-03-9 CAPLUS
CN 5,8,11,13,16,19-Hexaoxatricosane, 1,1,1,2,2,3,3,4,4,6,6,7,7,9,9,10,10,12,12,14,14,15,15,17,17,18,18,20,20,21,21,22,22,23,23,23-hexatriacontafluoro- (9CI) (CA INDEX NAME)

PAGE 1-A

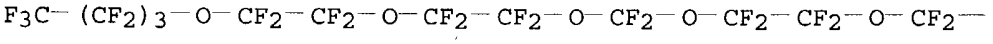


PAGE 1-B

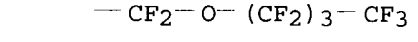


L28 ANSWER 30 OF 69 USPATFULL on STN
AN 94:53503 USPATFULL
TI Liquid-phase fluorination
IN Bierschenk, Thomas R., Round Rock, TX, United States
Juhlke, Timothy, Round Rock, TX, United States
Kawa, Hajimu, Austin, TX, United States
Lagow, Richard J., Austin, TX, United States
PA Exfluor Research Corporation, Austin, TX, United States (U.S. corporation)
PI US 5322903 19940621
AI US 1992-823836 19920117 (7)
RLI Continuation of Ser. No. US 1989-414119, filed on 28 Sep 1989, now patented, Pat. No. US 5093432, issued on 3 Mar 1992 which is a continuation-in-part of Ser. No. US 1988-250376, filed on 28 Sep 1988, now abandoned
DT Utility
FS Granted
EXNAM Primary Examiner: Krass, Frederick
LREP Hamilton, Brook, Smith & Reynolds
CLMN Number of Claims: 20
ECL Exemplary Claim: 1
DRWN 2 Drawing Figure(s); 2 Drawing Page(s)
LN.CNT 1950
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB This invention pertains to a method for liquid phase fluorination for perfluorination of a wide variety of hydrogen-containing compounds.
IT 130085-03-9P
(preparation of)
RN 130085-03-9 USPATFULL
CN 5,8,11,13,16,19-Hexaoxatricosane, 1,1,1,2,2,3,3,4,4,6,6,7,7,9,9,10,10,12,12,14,14,15,15,17,17,18,18,20,20,21,21,22,22,23,23,23-hexatriacontafluoro- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



L28 ANSWER 36 OF 69 USPATFULL on STN
AN 92:46791 USPATFULL
TI Perfluorinated polyethers and process for their preparation
IN Kalota, Dennis J., Fenton, MO, United States

McConaghy, Jr., John S., St. Louis, MO, United States
Foerst, Paul W., Chesterfield, MO, United States
Liu, Paul H., Chesterfield, MO, United States
Feher, Jr., Frank R., Belleville, IL, United States
PA Monsanto Company, St. Louis, MO, United States (U.S. corporation)
PI US 5120459 19920609
AI US 1990-498055 19900323 (7)
RLI Division of Ser. No. US 1989-150963, filed on 29 Jan 1989, now abandoned
DT Utility
FS Granted
EXNAM Primary Examiner: McAvoy, Ellen
LREP Brooks, W. W.
CLMN Number of Claims: 2
ECL Exemplary Claim: 1
DRWN 2 Drawing Figure(s); 2 Drawing Page(s)
LN.CNT 535
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Perfluorinated polyethers having the formula

R.sub.f O--(CF.sub.2 CF.sub.2 O).sub.n --R'.sub.f

wherein n is an integer of 1-11 and each of R.sub.f and R'.sub.f is a perfluorinated C.sub.1 -C.sub.5 -alkyl radical, dimers of such polyethers and carbon to carbon intramolecularly coupled cyclic derivatives of such polyethers are produced by direct fluorination of the polyethers in an inert solvent. Compositions of the perfluorinated polyethers and their derivatives are useful as functional fluids.

IT 125662-66-0P
(manufacture of, solvent for)
RN 125662-66-0 USPATFULL
CN 2,5,8,11,14,17,20,23-Octaoxatetracosane, 1,1,1,3,3,4,4,6,6,7,7,9,9,10,10,12,12,13,13,15,15,16,16,18,18,19,19,21,21,22,22,24,24,24-tetratriacontafluoro- (9CI) (CA INDEX NAME)

PAGE 1-A

$F_3C-O-CF_2-CF_2-O-CF_2-CF_2-O-CF_2-CF_2-O-CF_2-CF_2-O-CF_2-CF_2-$

PAGE 1-B

$-O-CF_2-CF_2-O-CF_2-CF_2-O-CF_3$

L28 ANSWER 37 OF 69 USPATFULL on STN
AN 92:17225 USPATFULL
TI Liquid phase fluorination
IN Bierschenk, Thomas R., Round Rock, TX, United States
Juhlke, Timothy, Round Rock, TX, United States
Kawa, Hajimu, Austin, TX, United States
Lagow, Richard J., Austin, TX, United States
PA Exfluor Research Corporation, Austin, TX, United States (U.S. corporation)
PI US 5093432 19920303
AI US 1989-414119 19890928 (7)
RLI Continuation-in-part of Ser. No. US 1988-250376, filed on 28 Sep 1988, now abandoned
DT Utility
FS Granted

10/631,862

EXNAM Primary Examiner: Kight, III, John; Assistant Examiner: Krass, Frederick
LREP Hamilton, Brook, Smith & Reynolds
CLMN Number of Claims: 21
ECL Exemplary Claim: 1
DRWN 2 Drawing Figure(s); 2 Drawing Page(s)
LN.CNT 2057
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB This invention pertains to a method for liquid phase fluorination for perfluorination of a wide variety of hydrogen-containing compounds.
IT 130085-03-9P
(preparation of)
RN 130085-03-9 USPATFULL
CN 5,8,11,13,16,19-Hexaoxatricosane, 1,1,1,2,2,3,3,4,4,6,6,7,7,9,9,10,10,12,12,14,14,15,15,17,17,18,18,20,20,21,21,22,22,23,23,23-hexatriacontafluoro- (9CI) (CA INDEX NAME)

PAGE 1-A

$F_3C-(CF_2)_3-O-CF_2-CF_2-O-CF_2-CF_2-O-CF_2-O-CF_2-CF_2-O-CF_2-$

PAGE 1-B

$-CF_2-O-(CF_2)_3-CF_3$

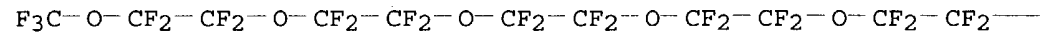
L28 ANSWER 38 OF 69 USPATFULL on STN
AN 91:106001 USPATFULL
TI Novel perfluorinated polyethers and process for their preparation
IN Kalota, Dennis J., Fenton, MO, United States
McConaghy, Jr., John S., St. Louis, MO, United States
Foerst, Paul W., Chesterfield, MO, United States
Liu, Paul H., Chesterfield, MO, United States
Feher, Jr., Frank R., Belleville, IL, United States
PA Monsanto Company, St. Louis, MO, United States (U.S. corporation)
PI US 5076949 19911231
AI US 1990-498124 19900323 (7)
RLI Division of Ser. No. US 1989-150963, filed on 29 Jan 1989, now abandoned
DT Utility
FS Granted
EXNAM Primary Examiner: Willis, Jr., Prince; Assistant Examiner: McAvoy, Ellen
LREP Brooks. W. W.
CLMN Number of Claims: 5
ECL Exemplary Claim: 1
DRWN 2 Drawing Figure(s); 2 Drawing Page(s)
LN.CNT 549
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Perfluorinated polyethers having the formula

R.sub.f O--(CF.sub.2 CF.sub.2 O).sub.n --R'.sub.f

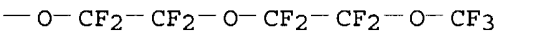
wherein n is an integer of 1-11 and each of R.sub.f and R'.sub.f is a perfluorinated C.sub.1 -C.sub.5 -alkyl radical, dimers of such polyethers and carbon to carbon intramolecularly coupled cyclic derivatives of such polyethers are produced by direct fluorination of the polyethers in an inert solvent. Compositions of the perfluorinated polyethers and their derivatives are useful as functional fluids.
IT 125662-66-0P
(manufacture of, solvent for)

RN 125662-66-0 USPATFULL
CN 2,5,8,11,14,17,20,23-Octaoxatetracosane, 1,1,1,3,3,4,4,6,6,7,7,9,9,10,10,12,12,13,13,15,15,16,16,18,18,19,19,21,21,22,22,24,24,24-tetratriacontafluoro- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

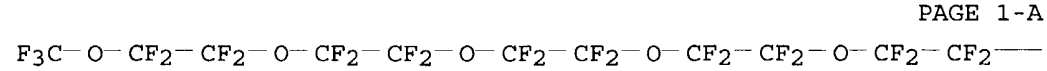


L28 ANSWER 39 OF 69 USPATFULL on STN
AN 91:17276 USPATFULL
TI Novel perfluorinated polyethers and process for their preparation
IN Kalota, Dennis J., Fenton, MO, United States
McConaghy, Jr., John S., St. Louis, MO, United States
Foerst, Paul W., Chesterfield, MO, United States
Liu, Paul H., Chesterfield, MO, United States
Feher, Jr., Frank R., Belleville, IL, United States
PA Monsanto Company, St. Louis, MO, United States (U.S. corporation)
PI US 4996369 19910226
AI US 1990-498057 19900523 (7)
RLI Division of Ser. No. US 1989-150963, filed on 29 Jan 1989
DT Utility
FS Granted
EXNAM Primary Examiner: Mars, Howard T.
LREP Brooks, W.
CLMN Number of Claims: 1
ECL Exemplary Claim: 1
DRWN 2 Drawing Figure(s); 2 Drawing Page(s)
LN.CNT 533
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Perfluorinated polyethers having the formula

R.sub.f O--(CF.sub.2 CF.sub.2 O).sub.n --R'.sub.f

wherein n is and integer of 1-11 and each of R.sub.f and R'.sub.f is a perfluorinated C.sub.1 -C.sub.5 -alkyl radical, dimers of such polyethers and carbon to carbon intramolecularly coupled cyclic derivatives of such polyethers are produced by direct fluorination of the polyethers in an inert solvent. Compositions of the perfluorinated polyethers and their derivatives are useful as functional fluids.
IT 125662-66-0P
(manufacture of, solvent for)
RN 125662-66-0 USPATFULL
CN 2,5,8,11,14,17,20,23-Octaoxatetracosane, 1,1,1,3,3,4,4,6,6,7,7,9,9,10,10,12,12,13,13,15,15,16,16,18,18,19,19,21,21,22,22,24,24,24-tetratriacontafluoro- (9CI) (CA INDEX NAME)

PAGE 1-A



—O—CF_2—CF_2—O—CF_2—CF_2—O—CF_3

L28 ANSWER 44 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1990:121089 CAPLUS
DN 112:121089
TI Perfluorination of alcohol ethoxylates
IN Feher, Frank Ronald; Foerst, Paul Wayne; Liu, Paul Ho; Kalota, Dennis Jerome; McConaghy, John Stead, Jr.
PA Monsanto Co., USA
SO Eur. Pat. Appl., 12 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

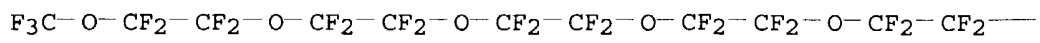
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 332601	A1	19890913	EP 1989-870017	19890127
	R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
	AU 8928869	A1	19890803	AU 1989-28869	19890127
	AU 607579	B2	19910307		
	JP 01225628	A2	19890908	JP 1989-19415	19890127
	US 5076949	A	19911231	US 1990-498124	19900323
	US 5120459	A	19920609	US 1990-498055	19900323
	US 4996369	A	19910226	US 1990-498057	19900523
	JP 06025404	A2	19940201	JP 1993-115041	19930517
	JP 07086139	B4	19950920		
	JP 06025405	A2	19940201	JP 1993-115042	19930517
	JP 07086140	B4	19950920		
	JP 06080773	A2	19940322	JP 1993-115043	19930517
	JP 07088423	B4	19950927		
PRAI	US 1988-150963		19880129		

AB The title compds. RO(CF2CF2O)nR1 (R, R1 = perfluorinated C1-5 alkyl; n 1-11) are prepared by reacting F(g) with alc. ethoxylates R2O(CH2CH2O)nR3 (R2, R3 = C1-5 alkyl; n = 1-11) in an inert solvent and separating the product. A process schematic and a reactor diagram are presented. Thus, 250 g heptaglyme and a slurry of 1110 g NaF in 4 L 1,1,2-trichloro-1,2,2-trifluoroethane was charged into a stirred (1200 rpm) reactor, a mixture of F and N added at 15-25° for 4 h, 7105 g of the fluorinated oil intermediate (5-10% H content) was charged into a reactor with 300 g NaF, the oil reacted with F at 31-128° for 177 min, the treated oil reacted with F at 29-253° for 230 min, and distilled to give a title product having average mol. weight 1000, b.p. (760 torr) 215°, pour point -25°, and d20 1.72 g/mL. The distillation bottoms contained perfluoroheptaglyme dimer and oligomers having average mol. weight 1900, b.p. 200°/4 torr, pour point -70°, and d20 1.81 g/mL.

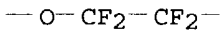
IT 125662-66-0P
RL: IMF (Industrial manufacture); PREP (Preparation)
(manufacture of, solvent for)

RN 125662-66-0 CAPLUS
CN 2,5,8,11,14,17,20,23-Octaoxatetracosane, 1,1,1,3,3,4,4,6,6,7,7,9,9,10,10,12,12,13,13,15,15,16,16,18,18,19,19,21,21,22,22,24,24,24-tetratriacontafluoro- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

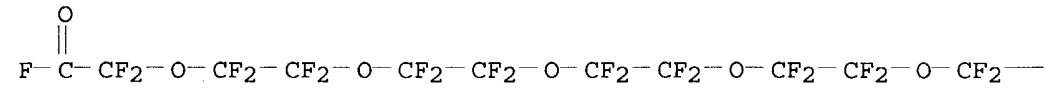


L28 ANSWER 45 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 4
AN 1989:438876 CAPLUS
DN 111:38876
TI Preparation of carbonyl fluoride compounds
IN Okabe, Jun; Tatsu, Haruyoshi
PA Nippon Mectron Co., Ltd., Japan
SO U.S., 7 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

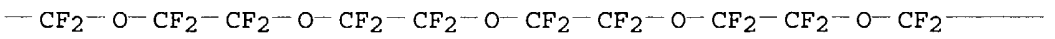
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4769184	A	19880906	US 1987-121135	19871116
	JP 01066139	A2	19890313	JP 1987-222946	19870908
	JP 08019035	B4	19960228		
	JP 01093557	A2	19890412	JP 1987-249588	19871002
	JP 2726824	B2	19980311		
PRAI	JP 1987-222946		19870908		
	JP 1987-249588		19871002		

OS MARPAT 111:38876
AB A process for producing XCOF (I; X = F, CF3) or I (X = CF3CF2), useful as intermediates for producing perfluoro(alkyl vinyl ethers) which are monomers for producing F-containing resins, F-containing rubber, etc., comprised thermally decomposing RfO(CF2CF2O)a(CF2O)b(O)cRf' (Rf = perfluoroalkyl; Rf' = COF, CF3; the CF2O and O groups are distributed at random; a, b ≠ 0; c can be 0; a + b + c ≤ .apprx.200) or RfO(CFXCF2O)nCFX'Y (X' = CF3, F, H; Y = COF, CO2H, CO2R, CF3; R = alkyl; n = 1-50), resp. F2C:CF2 and O2 were irradiated with UV to give F3CO(CF2OF2O)8(CF2O)2400.4COF, thermal decomposition of which at 200° over activated C gave a mixture of 78.2% COF2 and 21.8% F3CCOF. I (X = F, CF3) so produced contain no Cl-based impurities.
IT 119214-96-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of, in synthesis of carbonyl fluorides)
RN 119214-96-9 CAPLUS
CN 3,6,9,12,15,18,21,24,27,30,33,36,39,42,45,48,51,54,57,60,63,66,69-Tricosaoxahenheptacontanoyl fluoride, 2,2,4,4,5,5,7,7,8,8,10,10,11,11,13,13,14,14,16,16,17,17,19,19,20,20,22,22,23,23,25,25,26,26,28,28,29,29,31,31,32,32,34,34,35,35,37,37,38,38,40,40,41,41,43,43,44,44,46,46,47,47,49,49,50,50,52,52,53,53,55,55,56,56,58,58,59,59,61,61,62,62,64,64,65,65,67,67,68,68,70,70,71,71,71-pentanonacontafluoro- (9CI) (CA INDEX NAME)

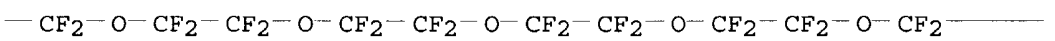
PAGE 1-A



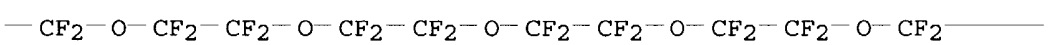
PAGE 1-B



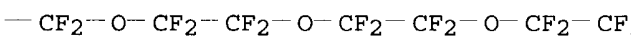
PAGE 1-C



PAGE 1-D



PAGE 1-E



L28 ANSWER 53 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 7
AN 1986:5566 CAPLUS
DN 104:5566
TI Perfluorocarbon ethers from a high-molecular-weight polyether
IN Lagow, Richard J.; Gerhardt, Glenn E.
PA University of Texas, USA
SO U.S., 16 pp. Cont. U.S. Ser. No. 139,181 abandoned.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4523039	A	19850611	US 1983-563013	19831219
PRAI	US 1978-901905		19780501		
	US 1980-139181		19800411		

AB Fluorocarbon ethers were prepared by fluorination of a high mol. weight polyether with F2 to produce a fluorinated polyether, which was depolymd. by further treatment with F2 at 55-210°. Thus, polyethylene exide

was fluroinated with flowing F2-He, using LaMar techniques, at ambient temperature for 12 days, at 90° for 2 days, and at 110° for 7 days, to give a mixture of compds. including CF4, COF2, F3CO(CF2CF2O)nR (n = 1-6; R = CF3, C2F5) (all permutations), and C2F5O(CF2CF2O)mC2F5 (m = 1-3), which were separated and characterized by IR, 19F NMR, and mass spectroscopy.

IT 64028-08-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, by fluorination-depolymn. of polyether, and spectral characterization of)

RN 64028-08-6 CAPLUS

CN 2,5,8,11,14,17-Hexaoxaoctadecane, 1,1,1,2,2,4,4,6,6,7,7,9,9,10,10,12,12,13,13,15,15,16,16,18,18,18-hexacosafluoro- (9CI) (CA INDEX NAME)

PAGE 1-A

$F_3C-O-CF_2-CF_2-O-CF_2-CF_2-O-CF_2-CF_2-O-CF_2-CF_2-O-CF_2-CF_2-$

PAGE 1-B

$-O-CF_3$

L28 ANSWER 65 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1977:517527 CAPLUS

DN 87:117527

TI Synthesis of perfluoropoly(ethylene glycol) ethers CF3[OCF2CF2]nORf (Rf = CF3 or C2F5; n = 1-5)

AU Gerhardt, Glenn E.; Lagow, Richard J.

CS Dep. Chem., Univ. Texas, Austin, TX, USA

SO Journal of the Chemical Society, Chemical Communications (1977), (8), 259-60
CODEN: JCCCAT; ISSN: 0022-4936

DT Journal

LA English

AB Finely ground (<120 mesh) poly(ethylene oxide) reacted with elemental F, under conditions carefully regulated to fragment and perfluorinate the polyether system, to give CF3[O(CF2)2]nOR (R = CF3, C2F5, n = 1-5).

IT 64028-08-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 64028-08-6 CAPLUS

CN 2,5,8,11,14,17-Hexaoxaoctadecane, 1,1,1,2,2,4,4,6,6,7,7,9,9,10,10,12,12,13,13,15,15,16,16,18,18,18-hexacosafluoro- (9CI) (CA INDEX NAME)

PAGE 1-A

$F_3C-O-CF_2-CF_2-O-CF_2-CF_2-O-CF_2-CF_2-O-CF_2-CF_2-O-CF_2-CF_2-$

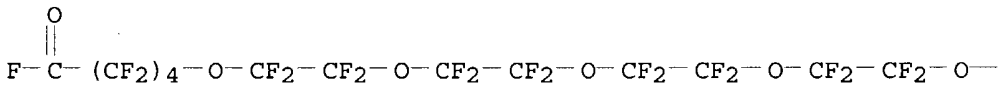
PAGE 1-B

$-O-CF_3$

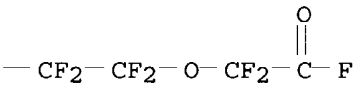
L28 ANSWER 66 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1976:493374 CAPLUS
DN 85:93374
TI The addition of tetrafluoroethylene oxide to F-glutaryl fluoride. Relative reactivities of acid fluorides
AU Anderson, R.; Baucom, K. B.; Psarras, T.; Snyder, C. E.; Cochoy, R. E.
CS PCR, Inc., Gainesville, FL, USA
SO Journal of Fluorine Chemistry (1976), 7(6), 581-8
CODEN: JFLCAR; ISSN: 0022-1139
DT Journal
LA English
AB Data obtained from the addition of tetrafluoroethylene oxide to F-glutaryl fluoride [FOC(CF2)3COF] show significant differences to exist between the relative reactivities of the acid fluoride groups involved. The order of reactivity is F-glutaryl fluoride > -OCF2COF > -CF2CF2COF.
IT 60127-05-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 60127-05-1 CAPLUS
CN 3,6,9,12,15,18-Hexaoxatricosanedioyl difluoride, 2,2,4,4,5,5,7,7,8,8,10,10,11,11,13,13,14,14,16,16,17,17,19,19,20,20,21,21,22,22-triacontafluoro- (9CI) (CA INDEX NAME)

PAGE 1-A



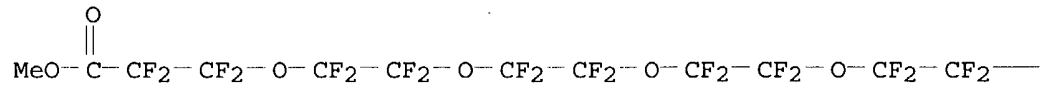
PAGE 1-B



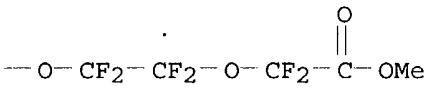
L28 ANSWER 67 OF 69 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1974:26718 CAPLUS
DN 80:26718
TI Nature of the addition of perfluoroolefin oxides to perfluorodicarboxylic acid difluorides
AU Skoblikova, V. I.; Sass, V. P.; Ershov, A. E.; Senyushov, L. N.; Sokolov, L. F.; Berenblit, V. V.; Sokolov, S. V.
CS Vses. Nauchno-Issled Inst. Sint. Kauch., Leningrad, USSR
SO Zhurnal Organicheskoi Khimii (1973), 9(10), 2021-5
CODEN: ZORKAE; ISSN: 0514-7492
DT Journal
LA Russian
AB FCOCF2COF (I) reacted with tetrafluoroethylene oxide (II) in diglyme containing CsF at -25° to give mixts. containing MeO2CCF2(CF2OCF2)nCO2Me (n = 1-6) after quenching with MeOH; FCO(CF2)4COF reacted analogously with II to give MeO2C(CF2)4(CF2OCF2)nCO2Me (n = 1-3). Reaction of I with hexafluoropropylene oxide afforded products of addition at both carbonyl groups of I, i.e., MeO2C[CF(CF3)OCF2]m CF2[CF2OCF(CF3)]nCO2Me(m = n = 1,2; m = 1-3, n = m-1).
IT 50733-65-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 50733-65-8 CAPLUS

CN 3,6,9,12,15,18-Hexaoxaheneicosanedioic acid, 2,2,4,4,5,5,7,7,8,8,10,10,11,11,13,13,14,14,16,16,17,17,19,19,20,20-hexacosafluoro-, dimethyl ester (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

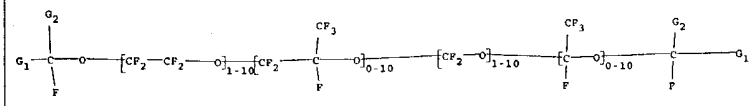


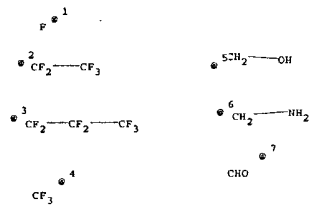
=> log hold

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	139.32	765.69

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-5.60	-14.70

SESSION WILL BE HELD FOR 60 MINUTES
STN INTERNATIONAL SESSION SUSPENDED AT 07:38:59 ON 10 NOV 2004





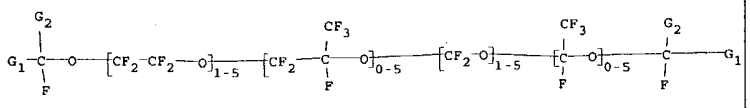
Structure 10630698 to large to search

chain nodes :
1 2 3 4 5 6 7 8 9 10 11 12 21 22 23 25 26 27 28 29 30 31 32 33
34 35 36 37 38 39 40 41 42 43 45
chain bonds :
2-7 3-4 4-6 8-10 9-11 21-22 22-23 22-25 22-26 26-27 27-28 28-29 29-30 30-31
31-32 31-33 31-34 34-35 35-36 36-37 37-40 37-38 37-39 40-41 41-42 41-43
41-45
exact/norm bonds :
21-22 22-25 22-26 31-34 36-37 37-40 40-41 41-43 41-45
exact bonds :
2-7 3-4 4-6 8-10 9-11 22-23 26-27 27-28 28-29 29-30 30-31 31-32 31-33 34-35
35-36 37-38 37-39 41-42

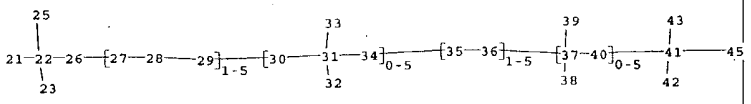
G1:[*1],[*2],[*3],[*4],[*5],[*6],[*7]

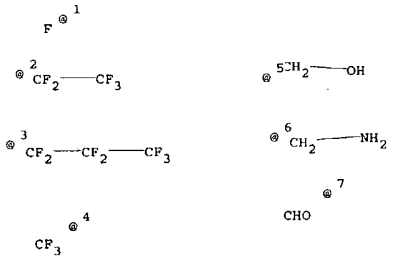
G2:[*1],[*2]

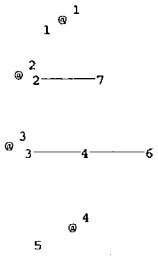
Match level :
1:CLASS 2:CLASS 3:CLASS 4:CLASS 5:CLASS 6:CLASS 7:CLASS 8:CLASS 9:CLASS
10:CLASS 11:CLASS 12:CLASS 21:CLASS 22:CLASS 23:CLASS 25:CLASS 26:CLASS 27:CLASS
28:CLASS 29:CLASS 30:CLASS 31:CLASS 32:CLASS 33:CLASS 34:CLASS 35:CLASS 36:CLASS
37:CLASS 38:CLASS 39:CLASS 40:CLASS 41:CLASS 42:CLASS 43:CLASS 45:CLASS

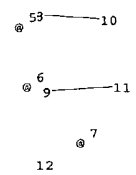


structure too large to search







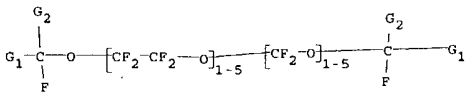


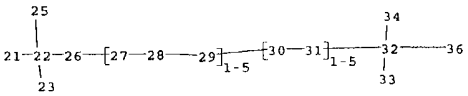
chain nodes :
1 2 3 4 5 6 7 8 9 10 11 12 21 22 23 25 26 27 28 29 30 31 32 33
34 35 36 37 38 39 40 41 42 43 45
chain bonds :
2-7 3-4 4-6 8-10 9-11 21-22 22-23 22-25 22-26 26-27 27-28 28-29 29-30 30-31
31-32 31-33 31-34 34-35 35-36 36-37 37-40 37-38 37-39 40-41 41-42 41-43
41-45
exact/norm bonds :
21-22 22-25 22-26 31-34 36-37 37-40 40-41 41-43 41-45
exact bonds :
2-7 3-4 4-6 8-10 9-11 22-23 26-27 27-28 28-29 29-30 30-31 31-32 31-33 34-35
35-36 37-38 37-39 41-42

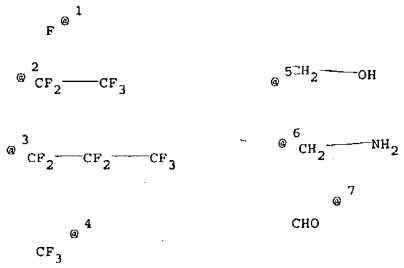
G1:[*1],[*2],[*3],[*4],[*5],[*6],[*7]

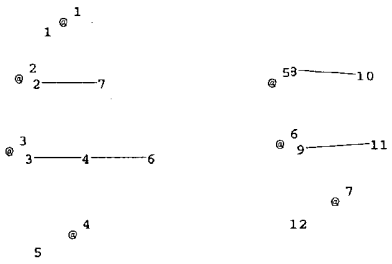
G2:[*1],[*2]

Match level :
1:CLASS 2:CLASS 3:CLASS 4:CLASS 5:CLASS 6:CLASS 7:CLASS 8:CLASS 9:CLASS
10:CLASS 11:CLASS 12:CLASS 21:CLASS 22:CLASS 23:CLASS 25:CLASS 26:CLASS 27:CLASS
28:CLASS 29:CLASS 30:CLASS 31:CLASS 32:CLASS 33:CLASS 34:CLASS 35:CLASS 36:CLASS
37:CLASS 38:CLASS 39:CLASS 40:CLASS 41:CLASS 42:CLASS 43:CLASS 45:CLASS







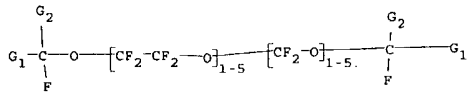


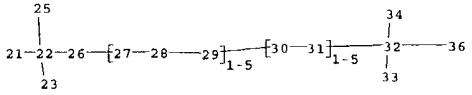
chain nodes :
1 2 3 4 5 6 7 8 9 10 11 12 21 22 23 25 26 27 28 29 30 31 32 33
34 36
chain bonds :
2-7 3-4 4-6 8-10 9-11 21-22 22-23 22-25 22-26 26-27 27-28 28-29 29-30 30-31
31-32 32-36 32-33 32-34
exact/norm bonds :
21-22 22-25 22-26 31-32 32-36 32-34
exact bonds :
2-7 3-4 4-6 8-10 9-11 22-23 26-27 27-28 28-29 29-30 30-31 32-33

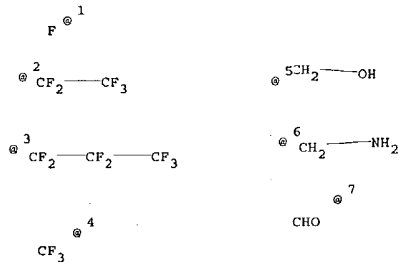
G1:[*1],[*2],[*3],[*4],[*5],[*6],[*7]

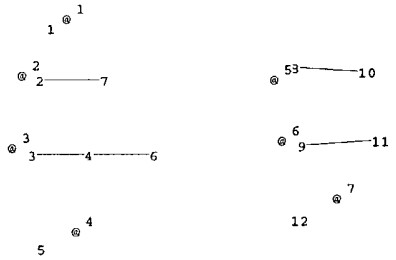
G2:[*1],[*2]

Match level :
1:CLASS 2:CLASS 3:CLASS 4:CLASS 5:CLASS 6:CLASS 7:CLASS 8:CLASS 9:CLASS
10:CLASS 11:CLASS 12:CLASS 21:CLASS 22:CLASS 23:CLASS 25:CLASS 26:CLASS 27:CLASS
28:CLASS 29:CLASS 30:CLASS 31:CLASS 32:CLASS 33:CLASS 34:CLASS 36:CLASS







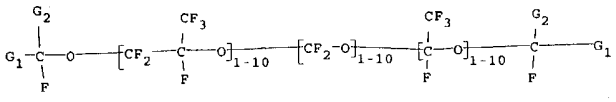


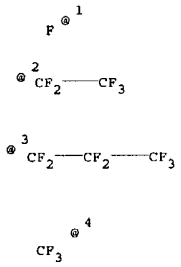
hain nodes :
1 2 3 4 5 6 7 8 9 10 11 12 21 22 23 25 26 27 28 29 30 31 32 33
34 36
hain bonds :
2-7 3-4 4-6 8-10 9-11 21-22 22-23 22-25 22-26 26-27 27-28 28-29 29-30 30-31
31-32 32-36 32-33 32-34
xact/norm bonds :
21-22 22-25 22-26 31-32 32-36 32-34
xact bonds :
2-7 3-4 4-6 8-10 9-11 22-23 26-27 27-28 28-29 29-30 30-31 32-33

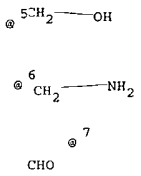
1:[*1],[*2],[*3],[*4],[*5],[*6],[*7]

2:[*1],[*2]

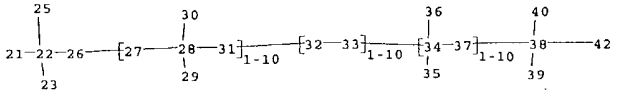
atch level :
1:CLASS 2:CLASS 3:CLASS 4:CLASS 5:CLASS 6:CLASS 7:CLASS 8:CLASS 9:CLASS
10:CLASS 11:CLASS 12:CLASS 21:CLASS 22:CLASS 23:CLASS 25:CLASS 26:CLASS 27:CLASS
28:CLASS 29:CLASS 30:CLASS 31:CLASS 32:CLASS 33:CLASS 34:CLASS 36:CLASS

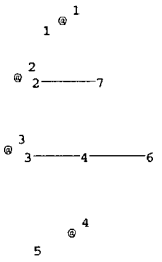


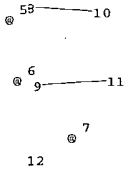




Structure too large to search





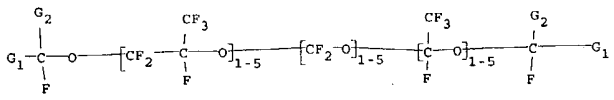


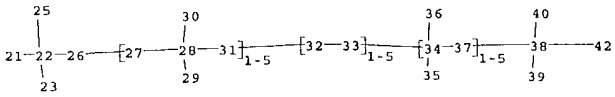
chain nodes :
1 2 3 4 5 6 7 8 9 10 11 12 21 22 23 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 42
chain bonds :
2-7 3-4 4-6 8-10 9-11 21-22 22-23 22-25 22-26 26-27 27-28 28-29 28-30 28-31 31-32 32-33 33-34 34-37 34-35 34-36 37-38 38-39 38-40 38-42
exact/norm bonds :
21-22 22-25 22-26 28-31 33-34 34-37 37-38 38-40 38-42
exact bonds :
2-7 3-4 4-6 8-10 9-11 22-23 26-27 27-28 28-29 28-30 31-32 32-33 34-35 34-36 38-39

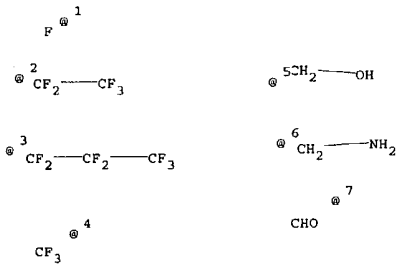
G1:[*1],[*2],[*3],[*4],[*5],[*6],[*7]

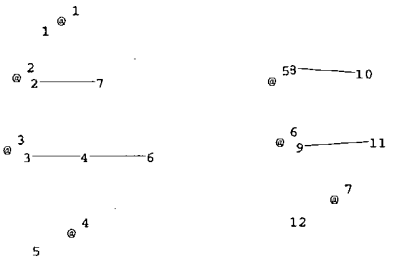
G2:[*1],[*2]

Match level :
1:CLASS 2:CLASS 3:CLASS 4:CLASS 5:CLASS 6:CLASS 7:CLASS 8:CLASS 9:CLASS 10:CLASS 11:CLASS 12:CLASS 21:CLASS 22:CLASS 23:CLASS 25:CLASS 26:CLASS 27:CLASS 28:CLASS 29:CLASS 30:CLASS 31:CLASS 32:CLASS 33:CLASS 34:CLASS 35:CLASS 36:CLASS 37:CLASS 38:CLASS 39:CLASS 40:CLASS 42:CLASS









chain nodes :
1 2 3 4 5 6 7 8 9 10 11 12 21 22 23 25 26 27 28 29 30 31 32 33
34 35 36 37 38 39 40 42
chain bonds :
2-7 3-4 4-6 8-10 9-11 21-22 22-23 22-25 22-26 26-27 27-28 28-29 28-30 28-31
31-32 32-33 33-34 34-37 34-35 34-36 37-38 38-39 38-40 38-42
exact/norm bonds :
21-22 22-25 22-26 28-31 33-34 34-37 37-38 38-40 38-42
exact bonds :
2-7 3-4 4-6 8-10 9-11 22-23 26-27 27-28 28-29 28-30 31-32 32-33 34-35 34-36
38-39

G1:[*1],[*2],[*3],[*4],[*5],[*6],[*7]

G2:[*1],[*2]

Match level :
1:CLASS 2:CLASS 3:CLASS 4:CLASS 5:CLASS 6:CLASS 7:CLASS 8:CLASS 9:CLASS
10:CLASS 11:CLASS 12:CLASS 21:CLASS 22:CLASS 23:CLASS 25:CLASS 26:CLASS 27:CLASS
28:CLASS 29:CLASS 30:CLASS 31:CLASS 32:CLASS 33:CLASS 34:CLASS 35:CLASS 36:CLASS
37:CLASS 38:CLASS 39:CLASS 40:CLASS 42:CLASS